UNIVERSIDAD COMPLUTENSE DE MADRID

FACULTAD DE FILOLOGÍA

TESIS DOCTORAL

La adquisición de los modificadores nominales del japonés por hablantes no nativos

MEMORIA PARA OPTAR AL GRADO DE DOCTOR

PRESENTADA POR

Hanako Fujino

Directora

Juana Muñoz Liceras

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Bajo la dirección de la doctora
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Universidad Complutense de Madrid
Facultad de Filología

Instituto Universitario de Investigación Ortega y Gasset
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LA ADQUISICIÓN DE LOS MODIFICADORES NOMINALES DEL JAPONÉS POR HABLANTES NO NATIVOS

-The Acquisition of Japanese Nominal Modifying Constructions by Non Native Speakers-

Hanako Fujino

2011

Directora: Dra. Dña. Juana Muñoz Liceras

To my family

Acknowledgment

When I started working on this dissertation, two very dear friends, a poet and an architect, told me that it was not a bad thing to have some vanity for creation. These words have accompanied me all this time and I am very grateful for this *empujón* "push" that they have given me.

The phenomenon that I set out to investigate was intriguing in many ways, and best of all, very little was known about it. However, as it turned out, it was "untouched" because its overall occurrence was rare and it could at best be considered as a minor phenomenon. If it were not, perhaps there would have been no room left for me to work on it.

Nonetheless, I am very happy to have taken it up. It is a small aspect of the SLA of Japanese, but it has led me to look globally at Japanese sentential modifying constructions and to elaborate a hypothesis that I believe is a fundamental aspect of clauses in general. I hope that the work presented here would inspire and invite other researchers to further investigation and towards a better understanding of language.

I wish to express my deepest gratitude to my supervisor, Juana Muñoz Liceras, for generously accepting to direct my dissertation, for her guidance, and for her expertise. I am also very grateful to Luigi Rizzi and Adriana Belletti for their precious time and insightful comments during my stay in Siena (Italy) during the winter of 2008-2009. I also wish to thank Masaru Kajita, former professor of Sophia University (Tokyo), for guiding me into the marvelous world of Linguistics, and Yukio Otsu of Keio University (Tokyo), who has always listened to my ideas with infinite patience and encouraged me.

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Madrid, Spain. 2011

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1 Introducción y objetivo general

La presente tesis trata de la adquisición de los modificadores nominales en el japonés como segunda lengua (SLA[1]); en concreto, del proceso general de la adquisición de las frases adjetivales, complementos nominales y cláusulas relativas.

Hasta la fecha, se han realizado varios estudios sobre la SLA de las cláusulas relativas con el objetivo principal de averiguar si la Jerarquía de la accesibilidad de los sintagmas nominales (*Noun Phrase Accessibility Hierarchy*; Keenan y Comrie 1977)[2] es válida para predecir el orden de la adquisición de los diferentes tipos de cláusulas relativas en japonés. En cambio, no se han realizado investigaciones sobre el curso general de la adquisición de las construcciones con modificadores nominales. Se considera importante llevar a cabo esta investigación porque nos permite tener un mayor conocimiento de cuál sea el estatus global de los modificadores nominales en la SLA, en general, y en el japonés como L2 (segunda lengua) de los hablantes de español, en particular.

Al mismo tiempo, se ha notado que los aprendices de la L2 a veces insertan la partícula *no* entre el modificador oracional y el sustantivo núcleo. Se refiere a casos como los siguientes ejemplos:

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[1] Las siglas de los términos provienen de sus nombres en inglés.

[2] La Jerarquía de la accesibilidad de los sintagmas nominales es una generalización tipológica sobre las lenguas humanas. Según dicha generalización, la posibilidad de que una lengua cuente con un cierto tipo de cláusula relativa depende del siguiente orden jerárquico:

(i) Sujeto (SU) > Objeto directo (DO) > Objeto indirecto (IO) > Oblicuo (OBL) > Genitivo (GEN) > Objeto de comparación (OComp)

Por ejemplo, si una lengua cuenta con cláusulas relativas del objeto indirecto, dicha lengua contará también con los demás tipos que son superiores en la jerarquía, es decir, relativas del sujeto y del objeto directo. Así mismo, la jerarquía predice que si una lengua carece de un tipo de cláusula relativa, también carecerá de los demás tipos superiores en la jerarquía.

(1) ookii (*no) kaban
grande bolso
bolso grande

(Fujino 2006)

(2) soopu-wa fuku-no arau (*no) mono
jabón-Top ropa-Gen lavar cosa
jabón es una cosa (para) lavar ropa

(Huter 1996, vía Ozeki y Shirai 2007)

(1) es una frase adjetival y (2) es un complemento nominal. En ambos casos, hay un *no* entre el modificador y el sustantivo núcleo, que no es propio del japonés nativo.

Dicho fenómeno es interesante por las siguientes razones. En primer lugar, se manifiesta en distintas construcciones (i.e. frases adjetivales, complementos nominales y cláusulas relativas). En segundo lugar, los aprendices que producen esta partícula no nativa proceden tipológicamente de distintas lenguas maternas (L1), como el inglés, el chino, el coreano y el castellano. En tercer lugar, los niños japoneses también producen un *no* no nativo en los mismos contextos durante una etapa de la adquisición de la lengua materna (L1A). A pesar de todo, y hasta la fecha, no se ha dado ninguna explicación teórica sobre el caso en la SLA.

Esta tesis pretende dar respuestas a las cuestiones arriba mencionadas. Además, se espera que esas respuestas pueden tener implicaciones interesantes. Por ejemplo, al investigar por qué el fenómeno se observa en diferentes construcciones, es posible que se descubra un factor o un mecanismo común que juega un papel importante en las construcciones modificadoras. Asimismo, y en función de la naturaleza de dicho factor o mecanismo, puede que se revele por qué el fenómeno se observa en el habla de los aprendices de distintas lenguas. Por último, si resulta que el fenómeno en la SLA es de la misma naturaleza que él de la L1A, se obtendrá una prueba de que la Gramática Universal (UG) también rige el proceso de la adquisición de L2.

2 Metodología

Esta tesis consta de dos partes: una parte teórica y una parte experimental. En la parte teórica se han revisado los estudios previos sobre las construcciones en cuestión: la construcción genitiva, la frase adjetival y los modificadores oracionales. Se han contrastado los análisis previos y se han aportado nuevos datos donde fueran necesarios, con el fin de establecer los fundamentos para interpretar los resultados de los experimentos y sopesar la validez de las hipótesis formuladas.

En la parte experimental, se han realizado dos estudios. En el primero, se analizaron los datos de entrevistas orales de competencia (*Oral Proficiency Interview*; OPI) recopilados en el Corpus KY (Kamada 1999, 2006). Los hablantes eran de L1 coreano y L1 inglés y el número de personas y los niveles de competencia eran cinco personas en el nivel básico, diez personas en el nivel intermedio y diez personas en el nivel avanzado.

Para cada nivel, los ejemplos de verbos y adjetivos fueron extraídos y analizados con el fin de conocer el curso general de la adquisición de estas categorías. Asimismo, se examinaron los ejemplos de los verbos y adjetivos que se encontraban en las cláusulas modificadores para observar el desarrollo de dichas construcciones. Finalmente, se analizaron los ejemplos en los que se encontraba un *no* no nativo entre el modificador y el núcleo.

En el segundo estudio, se realizó una prueba de producción guiada utilizando una presentación preparada en Machintosh Keynote. Los participantes eran 18 hispanohablantes en Madrid, España, inscritos en cursos del japonés. También participaron diez hablantes nativos del japonés como grupo de control.

La prueba consistía en escuchar una corta historia que fue presentada en cinco diapositivas con imágenes y contestar dos preguntas al final. Las preguntas aparecieron escritas en las diapositivas a la vez de ser narradas. Los participantes tuvieron que dar sus respuestas en voz alta dentro del tiempo dado. Los enunciados de

los participantes fueron grabadas en el ordenador utilizando la aplicación Audacity y posteriormente fueron transcritas para el análisis.

3 Aportaciones y resultados principales: Parte teórica

3.1 La construcción genitiva

En el japonés, el núcleo de la frase se coloca al final:

(3) Taro no **hon**
Taro de libro
libro de Taro

(3) es una frase genitiva donde [hon] es el núcleo y [Taro no] es el modificador que expresa posesión. Se ha propuesto que (3) tiene la siguiente estructura sintáctica, donde el modificador *Taro* se desplaza desde el sintagma nominal al especificador (Spec) del sintagma determinante (Zushi 1996, Whitman 1998, 1999):

(4) $[_{DP}$ Taro$_i$ $[_D$ no $[_{NP}$ t_i hon]]]^3
Taro Gen book

La construcción genitiva japonesa expresa un abanico de relaciones semánticas (cf. Teramura 1991), de las cuales caben destacar: la posesión; "parte y totalidad" (e.g. *zoo no hana* "nariz de elefante"); relaciones que se determinan por la pragmática (e.g. *London no ane* "hermana de Londres"); metáforas (e.g. *tetsu no onna* "dama de hierro"); la ubicación (e.g. *kaban no naka* "dentro del bolso"); relaciones gramaticales como "sujeto-objeto" (e.g. *DNA no kenkyuu* "investigación de ADN"); y relaciones adverbiales (e.g. *byooki no toki* "cuando de enfermo").

Otra característica de la construcción genitiva japonesa es que el modificador no se limita al sintagma nominal:

---

[3] DP: sintagma determinante (*determiner phrase*); D: determinante; NP: sintagma nominal (*noun phrase*); *t*: huella (*trace*)

(5) [**Pari kara**] no hikooki
París desde de avión
avión desde París

(6) [**takusan**] no hon
muchos de libros
muchos libros

En (5), el modificador es un sintagma posposicional y en (6), es un adverbio de cantidad.

Dada la diversidad semántica y sintáctica de esta construcción, se ha debatido mucho sobre la identidad del *no* que une el modificador y el núcleo. Tradicionalmente se ha dicho que es un marcador del caso genitivo (Matsushita 1928). Sin embargo, existen casos como (5) y (6), donde el modificador es un sintagma que no requiere caso. Asimismo, por la similitud semántica a la preposición *of* del inglés (Kamio 1983), se ha propuesto que es una posposición. Pero dicha hipótesis tampoco puede dar cuenta del hecho que su "complemento" no necesite caso.

Por otra parte, se ha propuesto que *no* es una partícula conjuntiva (Saito y Murasugi 1990), cuya función es simplemente unir el sintagma anterior con el que sigue, o bien, que *no* es un "marcador de modificación prenominal" (*Prenominal Modification Marker, MOD*) por su similitud al *de* en chino, que se emplea en la construcción correspondiente (Kitagawa y Ross 1982, Kitagawa 2005). Dichas hipótesis logran explicar la presencia de *no* en casos como (5) o (6), sin embargo, no logran dar cuenta de que el mismo *no* marca el caso genitivo cuando le precede un sintagma nominal. Por tanto, ninguna hipótesis hasta la fecha ha logrado captar de forma exhaustiva las propiedades del *no* en la construcción genitiva.

En resumen, la construcción genitiva en el japonés expresa varias relaciones semánticas entre el modificador y el núcleo. El modificador no se limita al sintagma nominal, ya que también se permiten sintagmas posposicionales y adverbiales. Por último, se ha debatido mucho sobre la identidad del *no* que une el modificador y el núcleo, pero la cuestión no ha sido resuelta aún.

3.2 La construcción adjetival

El japonés cuenta con dos tipos de adjetivos: “adjetivos canónicos” (*keiyoo*si) y “adjetivos nominales” (*keiyoodoosi*). Se distinguen por sus orígenes y por su forma de flexión. Los adjetivos canónicos constan de palabras nativas que se componen de un morfema y se conjugan mediante los sufijos de tiempo y de negación. En cambio, los adjetivos nominales son palabras nativas de más de un morfema o palabras de origen extranjero (la mayoría del chino). Siempre los acompaña el verbo copulativo, que se encarga de la flexión. En ambos casos, cabe decir que el sintagma adjetival en el japonés es oracional, ya que expresa el tiempo.

En efecto, en los estudios previos se ha defendido que la frase adjetival japonesa se comporta igual que la cláusula relativa con respecto a algunos fenómenos. En primer lugar, en inglés, las cláusulas relativas se interpretan de forma “cruzada” (*intersective reading*; Siegel 1980), mientras que los adjetivos admiten dos formas de lectura: la lectura “cruzada” y la “no-cruzada” (*non-intersective*). Los adjetivos en el japonés sólo permiten la lectura “cruzada”, igual que las cláusulas relativas inglesas (Baker 2003). En segundo lugar, cuando un adjetivo modifica un sustantivo y lo precede, se puede aplicar la eliminación comparativa (*comparative deletion*; Bresnan 1973), mientras que si éste se coloca detrás del sustantivo, la eliminación no se aplica. Según Bresnan (1973), la imposibilidad en el segundo caso se debe a que el sintagma nominal contiene una cláusula relativa reducida. Ishii (1991) muestra que en el japonés, el adjetivo precede el sustantivo, pero la eliminación comparativa no se aplica y concluye que los adjetivos japoneses son distintos de los ingleses. En tercer lugar, según Baker (2003), cuando los adjetivos ingleses se apilan, tienen un orden fijo (e.g. *the small square house* “la pequeña cuadrada casa”, **the square small house* “la cuadrada pequeña casa”), mientras que cuando las cláusulas relativas se apilan, el orden es libre. Según Sproat y Shih (1991), cuando los adjetivos japoneses se apilan, el orden de palabras también es libre, como en el caso de las cláusulas relativas.

Además de las pruebas arriba mencionadas, es posible formar cláusulas adjetivales con elementos del sintagma complementante (CP)[4]:

(7) [$_{CP}$ kion-ga hikui-**kadooka** no] mondai
temperatura-Nom baja-Int cuestión
cuestión de si la temperatura (está) baja o no

(8) [$_{CP}$ *pro*$_i$ tumaranai-**dake** no] eiga$_i$
aburrido -Foc película
película que (solamante) es aburrida

En (7), el predicado de la oración subordinada es el adjetivo *hikui* "(estar) baja" y la oración contiene *kadooka*, que es una partícula interrogativa. En (8), tenemos la partícula de foco *dake* "solamente". Ambos son considerados elementos del sistema complementante (cf. Rizzi 1997, 1999), lo que indica que las oraciones adjetivales tienen estructuras de CP.

En resumen, hay dos tipos de adjetivos en el japonés y, en ambos casos, el sintagma adjetival tiene una estructura oracional. Además, las pruebas que demuestran su semejanza con la cláusula relativa inglesa y la presencia de elementos del sistema complementante sugieren que el sintagma adjetival es de hecho una proyección de CP.

3.3 Los modificadores oracionales

De los modificadores oracionales japoneses, hemos tratado tres construcciones en concreto: complementos nominales, relativas sin hueco (*gapless relatives*; Murasugi 1991) y las relativas restrictivas.

Los complementos nominales son modificadores oracionales que complementan el contenido semántico del núcleo, ya que éste carece de él:

---

[4] Como muestran los ejemplos, el *no* debe aparecer entre el modificador y el núcleo en estos casos. Comentaremos sobre la distribución del *no* en 3.4.

(9) [Taro-ga hon-o katta] zizitu
Taro-Nom libro-Acc compró hecho
(el) hecho (de) que Taro compró (el) libro

En (9), el núcleo *zizitu* "hecho" no cuenta con ningún contenido semántico por sí mismo y la oración subordinada sirve para complementarlo. Aquí se pueden destacar dos características de los modificadores oracionales en el japonés: en primer lugar, como también se ha visto en las construcciones anteriores, el núcleo se coloca al final de la frase; en segundo lugar, el japonés carece de complementantes y pronombres relativos.

Las "relativas sin hueco" son un subtipo de los complementos nominales. En este caso, el núcleo posee cierto contenido semántico, pero igual que el complemento nominal, es necesario que sea complementado:

(10) [doa-ga simaru] oto
puerta-Nom cerrarse sonido
(el) sonido de cerrarse la puerta

En (10), entendemos que hay un "sonido", pero sin la oración subordinada, el sonido no tiene sustancia. Tanto los complementos nominales como las "relativas sin hueco" no cuentan con una posición dentro de la oración subordinada donde se interprete el núcleo. Por tanto, se considera que dichas construcciones se derivan a través de la adjunción de la oración subordinada al núcleo.

En cambio, las cláusulas relativas cuentan con una posición vacía dentro de la oración subordinada:

(11) [Taro-ga ___ katta] hon
Taro-Nom compró libro
(el) libro que compró Taro

En (11), podemos interpretar el núcleo *hon* "libro" como el objeto directo de la oración subordinada: en la posición que hemos marcado con "___". En los estudios sobre la sintaxis y la semántica de las cláusulas relativas restrictivas, se ha propuesto

que la interpretación restrictiva se deriva o bien, del desplazamiento del núcleo desde la oración subordinada (cf. Vergnaud 1974) o bien del desplazamiento del pronombre relativo, el complementante o un operador desde la oración subordinada (cf. Chomsky 1977). En cualquier caso, a diferencia de los complementos nominales, las relativas restrictivas se derivan mediante un desplazamiento a una posición no argumental, es decir, un desplazamiento A'.

Sin embargo, en el caso del japonés, se ha argumentado desde Kuno (1973) que las relativas restrictivas japonesas no manifiestan pruebas de desplazamiento. En primer lugar, es posible extraer un elemento desde la cláusula relativa y formar una doble relativa en violación de la condición de la Subyacencia. En segundo lugar, las relativas no muestran efectos de reconstrucción. Es decir, una relativa que tenga una expresión anafórica dentro del núcleo y su antecedente se encuentre dentro de la oración subordinada no resulta gramatical (cf. Hoji 1985). La implicación de esta postura ha sido que el japonés, a diferencia de otras lenguas, carece sintácticamente de la cláusula relativa restrictiva a pesar de poder expresarlo semánticamente.

Por otra parte, se ha argumentado que las pruebas que han sostenido la postura anterior no son ciertas. En cuanto a la no violación de la condición de la Subyacencia, Inoue (1976) y Hasegawa (1981) han demostrado que los contextos en que se puede violar la condición se limitan a dos casos: cuando el NP extraído es el sujeto de la relativa interior; y cuando el núcleo de la relativa interior es el sujeto de la relativa exterior. Ishizuka (2009) añade que además de estas condiciones, los dos núcleos tienen que estar en una relación posesiva. Dichas pruebas indican que en los demás contextos, la cláusula relativa japonesa también obedece la condición de la Subyacencia.

En cuanto a la ausencia de los efectos de reconstrucción, se ha comentado posteriormente que muchos nativos juzgan los ejemplos de Hoji (1985) como gramaticales (Hoshi 2004). En la presente tesis, se ha vuelto a analizar las expresiones anafóricas en el japonés y se han examinado los efectos de reconstrucción basándose en los ejemplos originales de Schachter (1973). Se ha comprobado que efectivamente

hay efectos de reconstrucción en las cláusulas relativas japonesas.

Además de las pruebas anteriores, se han presentado nuevos ejemplos en relación al efecto del cruce débil (*weak crossover*). Según Lasnik y Stowell (1991), éste se puede considerar como un filtro que se aplica en la forma lógica (LF) ya que el ascenso del cuantificador (*Quantifier Raising*) implica un desplazamiento A'. Se ha comprobado que cuando las cláusulas relativas japonesas contienen un cuantificador dentro del núcleo, se comportan igual que las cláusulas relativas inglesas con respecto al cruce débil. Es decir, igual que en inglés, la cláusula relativa en el japonés implica un desplazamiento A' del núcleo.

Por tanto, se ha concluido que igual que otras lenguas, el japonés cuenta con la cláusula relativa restrictiva que se deriva mediante un desplazamiento A' del núcleo. Por último, se señalaron unos ejemplos que plantean un problema fundamental para el análisis de Kayne (1994).

Kayne (1994), cuyo análisis se basa en Vergnaud (1974), alega que las cláusulas relativas restrictivas en todas las lenguas naturales tienen la estructura [D-CP], donde el determinante D selecciona la oración subordinada CP. Una cláusula relativa de núcleo-inicial se deriva de la siguiente manera:

(12) $[_{DP}$ D $[_{CP}$ NP_i $[C$ $[_{IP}$ …t_i…]]]] [5]

El núcleo NP se genera dentro de la oración subordinada y se desplaza al especificador del CP para contribuir con los rasgos nominales necesarios para que éste sea selecionado por el determinante. Como resultado, se obtiene una cláusula relativa como se señala en (13):

(13) $[_{DP}$ el $[_{CP}$ $libro_i$ [que $[_{IP}$ *pro* compré t_i ayer]]]]

En el caso de una cláusula relativa de núcleo-final, que es el del japonés, Kayne (1994) explica que el IP se desplaza al especificador del DP para asegurar el orden

[5] *t:* huella (*trace*); IP: sintagma flexión (*inflection phrase*)

correcto de palabras:

(14) [$_{DP}$ [$_{IP}$ kinoo *pro* t_i katta]$_j$ [$_{CP}$ hon$_i$ [t_j]]
ayer compré libro
(el) libro que compré ayer

En la tesis, se presentaron ejemplos en los que la oración subordinada contiene una partícula interrogativa o una partícula de foco. Como se ha comentado en el apartado anterior, dichos elementos pertenecen al sistema C y por tanto la oración subordinada en estos casos es un CP. Éste es un problema para el análisis de Kayne (1994) ya que el CP debe quedarse atrás.

Asimismo, Borsley (1997) ha criticado el análisis de Kayne (1994) sobre las cláusulas relativas extrapuestas y sugiere que la oración subordinada debe ser independiente del núcleo NP. En la presente tesis, nos hemos limitado a apuntar el problema y hemos dejado la búsqueda de una posible respuesta para futuras investigaciones.

En resumen, en la tesis se ha repasado el debate sobre la derivación de las cláusulas relativas restrictivas en el japonés y apoyado la postura de que son derivados mediante el desplazamiento del núcleo. Por tanto, hay dos grandes tipos de modificadores oracionales en el japonés: las construcciones que se derivan sin desplazamiento del núcleo (viz. complementos nominales y las relativas sin hueco) y las cláusulas relativas restrictivas, que se derivan con desplazamiento. Por último, se ha apuntado un problema fundamental para el análisis de Kayne (1994) sobre las cláusulas relativas de núcleo final.

3.4 Un factor común entre los modificadores oracionales

Un aspecto morfológico común entre los modificadores oracionales es que el predicado subordinado, ya sea un verbo o un adjetivo, aparece en una forma tradicionalmente referida como la “forma adnominal” (*rentaikei*). En los argumentos oracionales también el predicado toma dicha forma. La forma adnominal sufrió una

fusión fonológica con la forma conclusiva[6] en el siglo XIII y en la actualidad es igual que ésta, salvo en el caso del verbo copulativo. En la tesis, se han contrastado las funciones que dicha forma cumplía en el japonés clásico con las que cumple hoy. Se ha comprobado que además de la reducción fonológica, sus funciones también se han reducido a través de los siglos.

Asimismo, se ha observado que la partícula *no* está muy vinculada a la forma adnominal y juega un papel secundario a ésta en el japonés moderno. En concreto, *no* se inserta al final de la oración subordinada en los siguientes contextos: (i) cuando el predicado en la forma adnominal no se encuentra en la posición final; (ii) cuando el predicado subordinado no está en la forma adnominal; (iii) cuando el núcleo del modificador oracional es fonéticamente nulo o cuando la oración subordinada funciona como un argumento oracional.

En la presente tesis, se han propuesto dos requisitos para dar cuenta de la presencia de la forma adnominal y la distribución de *no*. En el primero, se ha aplicado la hipótesis de la Clasificación de Cláusulas de Cheng (1991), según la cual el tipo de la cláusula (declarativa, interrogativa, exclamativa, etc.) debe ser indicada fonológicamente. Se ha supuesto un sistema enriquecido del CP[7] (Rizzi 1997, 1999) y se ha reinterpretado la hipótesis de Cheng (1991) como un requisito de la forma fonológica (PF)[8]:

(15) El tipo de la cláusula se expresa mediante un valor asignado a Force^0 y dicho valor debe estar visible en la forma fonológica (PF).

Se ha considerado que los modificadores oracionales y los argumentos oracionales tienen el valor “nominal”, ya que en el primero caso son modificadores

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[6] La forma conclusiva marca el fin de la oración.

[7] Rizzi (1997, 1999) propone que el CP consta de diferentes sintagmas ordenados jerárquicamente:
ForceP … Int(errogative)P ... Top(ic)P … Foc(us)P … Fin(ite)P
El ForceP es el nivel que hace interface con los sistemas exteriores: el sistema articulatorio-perceptivo y el sistema intencional-conceptual.

[8] La forma fonológica es la información lingüística interpretada en el sistema articulatorio-perceptivo.

nominales y en el segundo caso son argumentos. Se propone que dicho valor se asigne a Force^0 de la siguiente forma:

(16) La Clasificación de las cláusulas nominales:
Las cláusulas nominales son clasificados a través de una de las siguientes formas, cuyo orden de preferencia es determinado por el Principio de la economía de la derivación (Chomsky 1989):
(i) un sufijo verbal (i.e. la forma adnominal);
(ii) una partícula (e.g. *no*);
(iii) un morfema libre (e.g. complementante)

En el caso del japonés, es la forma adnominal la que normalmente se encarga de marcar el tipo de la cláusula adnominal ya que es la opción preferida. Cuando ésta no está disponible, bien porque está ausente, o bien porque hay otro elemento que interviene e impide que ésta aparezca en la posición final, la partícula *no* sirve para satisfacer el requisito. En cambio, en inglés o en castellano, el complementante o un pronombre relativo se encarga de esta función porque carece de las opciones más económicas.

Sin embargo, las hipótesis expuestas en (15) y (16) no dan cuenta del tercer caso de la presencia de *no*: cuando el núcleo del modificador oracional es fonéticamente nulo o cuando la oración subordinada funciona como un argumento oracional. Se refieren a casos como los siguientes ejemplos:

(17) [kinoo *pro* t_i katta **no**] *pro*$_i$
ayer compró
el que compré ayer

(18) [kinoo *pro* e_i katta **no**] -wa hon$_i$ da.[9]
ayer compró Top libro es
Lo que compré ayer es un libro.

(17) es parecido a (14), salvo por el hecho de que el núcleo es un pronombre

[9] *e*: categoría vacía (*empty category*).

nulo. (18) cuenta con una oración hendida (*cleft*) y la frase subordinada funciona como un argumento. En ambos casos, *no* es necesario en la posición final de la frase a pesar de que el predicado subordinado está en la forma adnominal y ocupa la posición final de la frase.

En los estudios previos, la presencia de *no* en estos casos se ha explicado por la necesidad de la "claridad conceptual" (Kitagawa & Ross 1982) o la "visibilidad en PF" (Hoshi 2005). Es decir, se ha considerado que se inserta el *no* para indicar que la oración continúa a pesar de que aparece el predicado, porque si no, se entendería como la forma conclusiva y que la oración termina. Efectivamente, el *no* en dichos casos no juega ningún papel sintáctico ni semántico. Así mismo, en la tesis, se han contrastado estos contextos con los correspondientes en el japonés clásico y se ha observado que en los mismos contextos, la partícula *no* era innecesaria en el japonés clásico.

Por lo tanto, se ha atribuido la presencia de *no* en estos casos al cambio diacrónico de la forma adnominal. En concreto, se ha propuesto el siguiente requisito:

(19) Las cláusulas deben "cerrarse" para formar una unidad fonológica.

Se ha supuesto que la forma adnominal en el japonés clásico poseía la función de cerrar la cláusula. Así las cláusulas nominales podían formar una unidad fonológica y permitir la conexión de los morfemas dependientes, como las partículas de caso. Se ha especulado que dicha función se ha perdido en la forma adnominal actual y como consecuencia, se ha creado una forma alternativa para satisfacer el requisito, es decir, el insertar el *no*.

En resumen, la forma adnominal es el factor común entre los diferentes tipos de modificadores oracionales y la partícula *no*, que se encuentra en determinados contextos, está muy vinculado con dicha forma adnominal. Se han propuesto dos requisito de carácter fonológico para captar los papeles que juegan estos elementos y dar cuenta de su distribución. Por una parte, se ha propuesto una versión revisada de

la hipótesis de la Clasificación de las cláusulas (Cheng 1991). Según ésta, la forma adnominal cumple la función de marcar el tipo de las construcciones nominales y el *no* es la estrategia secundaria para satisfacer la misma. Por otra parte, se ha supuesto un requisito sobre el "cierre" de las cláusulas para la formación de unidades fonológicas. Se ha propuesto que la forma adnominal en el japonés moderno ha perdido dicha función y que la partícula *no* sirve para complementarla.

4 Aportaciones y resultados principales: Parte experimental

4.1 El curso de la adquisición de los modificadores oracionales

Los resultados del análisis del corpus señalan que la forma adnominal se adquiere paralelamente con la forma conclusiva y se incrementa según se vayan desarrollando las construcciones subordinadas. Los modificadores adjetivales son los primeros en desarrollarse. Posteriormente, aparecen los complementos nominales y las relativas adverbiales. Por último, se desarrollan las cláusulas relativas restrictivas.

En el caso de la forma adnominal de los adjetivos, la gran mayoría se encuentra en la forma afirmativa del presente hasta en el nivel avanzado. De hecho, no se ha observado ningún ejemplo en la forma negativa del pasado en los datos analizados. En cambio, la forma adnominal de los verbos empieza a aparecer en la forma afirmativa del presente (viz. la forma "básica") y más tarde se observan las formas con un sufijo (la forma afirmativa del pasado o la forma negativa del presente). Dichas formas empiezan a observarse cuando las construcciones han llegado a un estado productivo. La forma negativa del pasado que requiere la presencia de dos sufijos ([raíz+neg+pasado]), surge más tarde y se observa pocas veces, aún en el nivel avanzado. Así pues, la adquisición del paradigma de la flexión es gradual. En el habla espontánea los errores de flexión son pocos, lo cual indica que los aprendices de L2 son conservadores y evitan usar formas de las que no estén seguros. En cambio, en el experimento, se han observado errores de flexión con más frecuencia.

El hecho de que los complementos nominales y las relativas adverbiales

aparezcan antes que las relativas restrictivas da apoyo a la conclusión teórica de que las relativas restrictivas japonesas se derivan mediante el desplazamiento del núcleo. Se puede considerar que esta operación sintáctica es la causa del retraso con respecto a otras construcciones que se derivan sin desplazamiento. Asimismo, los resultados del experimento señalan que las relativas de sujeto son más fáciles que las relativas de complemento directo para los aprendices del nivel donde se producen estas construcciones. Este orden está conforme con la Jerarquía de la accesibilidad de los sintagmas nominales y también apoya la hipótesis de que el japonés cuenta con la cláusula relativa restrictiva.

4.2 El fenómeno de la inserción de 'no' en la SLA

Para dar cuenta del fenómeno de la inserción de *no* en la SLA, se ha propuesto la siguiente hipótesis:

(20) Los aprendices de L2 insertan el *no* entre el modificador oracional y el núcleo porque no logran marcar el tipo de la oración subordinada con la forma adnominal.

Es decir, cuando se produce un modificador oracional, éste tiene que haber cumplido el requisito de la Clasificación de las cláusulas (cf. (16)). Sin embargo, si la forma adnominal todavía está en desarrollo, es posible que la primera opción (viz. vía la forma adnominal), no esté disponible. En este caso, se hace la Clasificación por la segunda opción permitida, es decir, a través del *no*.

Por consiguiente, según la hipótesis que hemos formulado la inserción del *no* es prueba de que la Gramática Universal guía el proceso de la SLA y de que los aprendices de L2 que se encuentran en este nivel, tienen conocimiento de las opciones permitidas en el japonés. Si dicha hipótesis es válida, se espera que el predicado subordinado cuando se inserte el *no* sea a menudo erróneo y la inserción de *no* cese cuando se haya adquirido la forma adnominal. Este fenómeno se ha observado en el corpus y en el experimento. En concreto, se han observado dos casos diferentes del

fenómeno. El primer caso se observó en el experimento. Los hablantes eran de L1 español y su nivel de competencia era inferior al de los hablantes del corpus. Los resultados del experimento mostraron que los hablantes aún no habían adquirido la forma adnominal y que las construcciones subordinadas estaban en desarrollo. Todos los ejemplos ocurrieron en las cláusulas adjetivas y la mayoría de las veces la forma del predicado no era una forma nativa. El fenómeno se observó con una frecuencia de 14,4% y siete de 18 personas lo manifestaron.

Las características del primer caso concuerdan con la hipótesis que hemos formulado. Los hablantes tuvieron que producir los modificadores oracionales, pero la forma adnominal todavía estaba en desarrollo[10]. Efectivamente, en muchos casos la forma adnominal que produjeron no era propia del japonés nativo. Por tanto, se ha concluido que el *no* insertado en este caso es la consecuencia de elegir la segunda opción permitida en el japonés para satisfacer el requisito de la Clasificación de las cláusulas, debido a que la primera opción no está disponible.

El segundo caso se observó en el corpus. El fenómeno se manifestó principalmente en el nivel intermedio, donde los hablantes habían adquirido la forma adnominal y los modificadores oracionales habían llegado a un estado productivo. El fenómeno ocurrió en diferentes construcciones y en la mayoría de los ejemplos, el predicado estaba en la forma afirmativa del presente y la forma era propia del japonés nativo. La frecuencia era de 5,8% y 7 de cada 10 personas lo manifestaron.

La hipótesis que hemos formulado no puede dar cuenta de este segundo caso, ya que los hablantes habían adquirido la forma adnominal y deberían haber marcado el tipo de la cláusula correctamente. Se ha propuesto en cambio, que el segundo caso se explica por el requisito fonológico descrito en (19): las cláusulas deben "cerrarse" para formar una unidad fonológica. Curiosamente, los argumentos oracionales (cf. (18)) se desarrollan también durante éste período. Como señala el ejemplo (18), dicha construcción requiere el *no* al final. Se ha especulado que, en dicha construcción, los

[10] Todos los participantes del experimento habían estudiado los modificadores oracionales en clase.

aprendices sobregeneralizan la necesidad de la partícula *no* a los modificadores oracionales con núcleos descubiertos.

5 Conclusiones e implicaciones

En la presente tesis, se ha presentado el desarrollo global de la adquisición de los modificadores oracionales. En primer lugar, se ha mostrado que la forma adnominal se adquiere a la vez que la forma conclusiva. Su adquisición es gradual y las formas no nativas son pocas en el habla espontánea. En segundo lugar, se ha mostrado que los modificadores adjetivales se adquieren primero, después siguen los complementos nominales y las cláusulas relativas adverbiales, y finalmente se adquieren las cláusulas relativas restrictivas. Dicho orden de adquisición da apoyo a la conclusión de que las cláusulas relativas restrictivas en el japonés se derivan mediante el desplazamiento del núcleo, igual que en otras lenguas.

En cuanto al fenómeno de la inserción de *no* en la SLA, se han descubierto dos casos del fenómeno y se han proporcionado explicaciones para ambos. Para el primer caso, en el que la forma adnominal aún está en desarrollo, se ha propuesto que los aprendices insertan el *no* como resultado de elegir la segunda opción permitida en el japonés para marcar el tipo de la cláusula subordinada. La implicación de esto es que la UG guía el proceso de la SLA y los aprendices en este nivel ya tienen conocimiento de las estrategias particulares del japonés. Para el segundo caso, en el cual la forma adnominal ya se ha adquirido, se ha propuesto que la inserción se debe al requisito de "cerrar" las cláusulas para formar unidades fonológicas. Se ha especulado que la inserción de *no* es la consecuencia de sobregeneralizar la necesidad de *no* en el caso de los argumentos oracionales.

Con respecto a las cuestiones planteadas al principio, se dan las siguientes respuestas. En primer lugar, el fenómeno de la inserción de *no* se observa en distintas construcciones porque todas son "nominales" y contienen la forma adnominal del verbo o adjetivo. En segundo lugar, el fenómeno se observa en el habla de aprendices de distintas primeras lenguas (L1) porque la causa fundamental del fenómeno es una

propiedad particular del japonés: la forma adnominal. De hecho, no se ha observado ninguna diferencia significativa entre los aprendices de L1 coreano y los de L1 inglés. En tercer lugar, se considera que el fenómeno que se observa en la L1A es de la misma naturaleza que el que se observa en la SLA, porque los niños también adquieren el paradigma de la flexión gradualmente y hay un período en que la forma adnominal no es operativa. Dado que los demás aspectos de la Clasificación de las cláusulas y el "cierre" fonológico de las mismas son universales, es de esperar que la indisponibilidad o la inmadurez de la forma adnominal dé lugar a la inserción de *no*.

Por último, la hipótesis se ha basado en gran parte en la fonología y en la PF, pero aún se conoce muy poco sobre la naturaleza de los principios y las características de los requisitos que se aplican a las cláusulas en este nivel. Si la Clasificación de las cláusulas es efectivamente un requisito de PF, sus aspectos fonológicos deben concordar con otros requisitos de PF y se debe detallar el mecanismo a través del cual el valor asignado en la sintaxis es procesado en PF. Asimismo, queda por aclarar cómo se "cierra" la cláusula para la formación de la unidad fonológica. Estas cuestiones se dejan para futuras investigaciones.

Introduction

The present dissertation deals with the second language acquisition (SLA) of nominal modification constructions in Japanese, in particular, the general course of acquisition of adjectival phrases, nominal complements, adverbial relatives, and restrictive relative clauses.

In SLA research, there have been many studies on Japanese relative clauses, especially on the question of whether the Noun Phrase Accessibility Hierarchy (Keenan & Comrie 1977) is valid for predicting the order of acquisition in Japanese. However, the general course of acquisition of nominal modification constructions has not been documented. We feel that it is important to have a general picture of the course of acquisition for a better understanding of the phenomena that occur during this process. We have also incorporated recent developments of syntactic theory into our proposals and tested them using corpus and experimental data.

It has also been noted that second language (L2) learners of Japanese occasionally insert *no* between the sentential modifier and the head noun when native Japanese does not require it. This phenomenon, which we will call the "*no*-overgeneration phenomenon", is intriguing in several respects: first, it is exhibited across different types of sentential modifiers; second, it is exhibited among L2 learners of typologically different first languages (L1s) (English, Chinese, Korean, Spanish L2 learners, among others); and third, a very similar phenomenon has been observed in first language acquistion (L1A). However, no principled account of SLA has been given in this respect.

In this thesis, we dealt with the issues raised by the properties mentioned above and provide some answers to the questions raised by these phenomena. We believe that the answers may have interesting consequences. For instance, by investigating the reason why the phenomenon is observed across different constructions, we may discover the common factor or the mechanism that plays an important role in modification constructions in general. The nature of this factor or mechanism may tell

us why the phenomenon is observed among learners of different L1s. Moreover, we would like to determine how similar the phenomenon in SLA and that in L1A are, because if they prove to be of the same nature, it would mean that Universal Grammar is effective in this aspect of SLA.

We will start by establishing the syntactic analyses of the constructions in question. In Chapter 1, we will deal with the genitive construction. We will see that this covers a wide range of semantic relationships in Japanese and that the particle *no,* which links the head noun and the modifier, plays other functions apart from marking genitive Case.

In Chapter 2, we will discuss the adjectival modification construction. Japanese has two types of adjectives, and it has been argued that Japanese adjectival phrases have structures similar to relative clauses. We will present further evidence and claim that both have CP-structures.

In Chapter 3, we will deal with sentential modifiers, in particular, nominal complements, gapless relatives, and relative clauses. There has been an ongoing debate on whether Japanese restrictive relatives are base-generated or derived by movement. We will review the arguments that supported the base-generation approach, and show that recent developments and a closer examination of the initial arguments suggest, on the contrary, that they are derived by A-bar movement.

In Chapter 4, we will look into two language particular elements that play important roles in Japanese modification constructions: the adnominal form and the particle *no*. A contrastive analysis of the adnominal form in Classical Japanese and in Modern Japanese will show that some of the functions of the adnominal form have been reduced through diachronic changes, and that in Modern Japanese *no* plays a secondary role to the adnominal form. By elaborating on Cheng's (1991) Clausal Typing Hypothesis, we will present a new hypothesis to account for the distribution of the adnominal form and the particle *no* in Modern Japanese. Furthermore, we will also make a proposal on phonological grounds about the presence of *no* in cases

where the embedded clause lacks an overt head.

With the theoretical bases established, we will proceed to questions on language acquisition. In Chapter 5, we will review previous studies on L1A and SLA and present our hypotheses on the *no*-overgeneration phenomenon in SLA.

In Chapter 6, we will present the two studies that we have carried out for the present thesis. The first study is an analysis of corpus data in which the participants are adult L1 English and adult L1 Korean speakers. The second study is an elicited production task in which the participants are adult L1 Spanish speakers. The results of the studies will provide us with information about the general course of the acquisition of Japanese modification constructions and the manifestation of the *no*-overgeneration phenomenon in SLA.

In Chapter 7, we present a general discussion on the studies and the results obtained. We will argue that our findings generally support the proposals made in the theoretical discussion. We will also show that there are in fact two instances of the *no*-overgeneration phenomenon in SLA. We will also argue that our hypotheses give a natural account on the results obtained.

Finally, in the Conclusions, we will summarize the work carried out in this dissertation and point at some issues that remain for future investigation.

Chapter 1 The Genitive Construction

The first modifying construction that we will deal with is the genitive construction. Let us assume that it has the following syntactic structure (Zushi 1996, Whitman 1998, 1999):

(1) [$_{DP}$ Taro$_i$ [$_D$ no [$_{NP}$ t_i hon]]]
Taro Gen book
Taro's book

Since Japanese is a head-final language, the last noun in the construction is the head. Traditionally, *no*, which stands between the modifying noun and the head noun, has been analyzed as the genitive Case-marker. But as we will see, there are cases in which the modifying phrase does not need to be Case-marked. In fact, the status of *no* has been long debated and still has not achieved a consensus.

1.1 Types of relationships

There are more than fifteen types of semantic relationships that can hold between the two nouns in the Japanese genitive construction (Teramura 1991). Typically, the first noun modifies or adds information to the second[1]:

(2) Possession:

Taro no hon
Taro Gen book
Taro's book

[1] Japanese does not have an article system, so definiteness and plurality are determined by the context. However, in the examples cited here and in the rest of the thesis, articles and plural suffixes are added accordingly in the English translation for the sake of comprehension. With respect to the reason why Japanese lacks an article system, Chierchia (1998) proposes that in languages like Japanese and Chinese, all nouns are in some sense "mass" and are allowed to occur freely as bare nouns without determiners in argument position. See also Fukui (1986, 1988) for the view that Japanese lacks all the functional categories including D, and Fukui (1995) for the view that Japanese has D but it is not active in syntax.

(3) Part-whole:

zoo no hana
elephant Gen nose
nose of elephant

(4) Subgroup:

saboten no mi
cactus Gen fruit
cactus fruit

In some others, the relationships are pragmatic, requiring certain common knowledge:

(5) London no ane
London Gen sister
my sister in London (=who lives)

(6) kamera no Nikon
camera Gen Nikon
Nikon of cameras (=Nikon, that is known for cameras)

Metaphors can also be expressed by the genitive construction:

(7) tetu no onna
iron Gen woman
iron lady

(8) yuki no hada
snow Gen skin
skin like snow

Nouns that have minimal semantic content of their own, such as *koto* "matter" or *mono* "thing", are called *keesiki meesi* "formal nouns" (Matsushita 1928)[2]. When these occur as the head noun, the first noun serves as the complement of the head:

(9) Taro no koto
Taro Gen matter
matter about Taro

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[2] Teramura (1991) calls such nouns "incomplete nouns" (*fukanzen meesi*) and they include adverbial expressions such as *toki* "when" and *tokoro* "where".

(10) Taro no mono
Taro Gen thing
Taro's things

There are also nouns that are semantically "partial", in the sense that they have certain semantic content, but need to be specified:

(11) kankyoo no mondai
environment Gen problem
environmental problems

(12) piano konkuuru no yuusyoosya
piano contest Gen winner
winner of the piano contest

In (11), *mondai* "problem" tells us that there is an issue, but the word itself does not convey any information on what the issue is about. Likewise, in (12), *yuusyoosya* "winner" has no actual meaning without specification on the competition that the person has won.

Direction words such as *ue* "up" and *naka* "inside" are nouns in Japanese[3] and also form a genitive construction. In this case, the first noun serves as the "ground" for the second noun to fix its denotation:

(13) tukue no ue
table Gen on
on the table

(14) kaban no naka
bag Gen inside
inside the bag

In other cases, the relationships are grammatical:

---

[3] Direction words can appear where nouns do and freely combine with case particles:

(i) ue/gakkoo e iku.
up/school Loc go.
Go up/to school.

(15) Subject-predicate:

wakamono no zisatu
the-young Gen suicide
suicide of the young

(16) Subject-object:

DNA no kenkyuu
DNA Gen investigation
investigation of DNA

Apposition is also expressed in the [N *no* N] configuration:

(17) sakka no Tanaka
writer Gen Tanaka
Tanaka, the writer

However, Tokieda (1950) and Okutsu (1978) argue that *no* in this case should be analyzed as the adnominal form of the copular verb *da,* because the construction can be paraphrased as a copular sentence, as in (18):

(18) Tanaka-wa sakka da.
Tanaka-Top writer be
Tanaka is a writer.

Their claim is supported by the fact that when two nouns are coordinated to occupy the position of the first noun, they are joined by *de*, which is the continuative form (*renyookei*) of *da*, and not *to* "and", the conjoining particle for nouns. This is illustrated in the following:

(19) Coordination in an appositive [N *no* N]:

[sakka **de** hyooronka] no Tanaka
writer be.Cnt commentator Gen Tanaka
Tanaka, the writer and commentator

(20) Coordination in a predicative [N *no* N]:

[mati **to** mura] no hakai
city and village Gen destruction
destruction of the city and the village

Finally, when the head noun is adverbial, such as *toki* "time" or *tokoro* "place", the first noun complements the head and the interpretation is similar to that of an adverbial relative clause:

(21) byooki no toki
illness Gen time
when (I am) ill

(22) rusu no tokoro
absence Gen place
In one's absence

As the translation of the above examples show, many of the semantic relationships that can be expressed in the Japanese genitive construction cannot be done so in English. In the following section, we will further see that the first member of the genitive construction does not always have to be a nominal phrase.

1.2 Variations of the genitive construction

In Japanese, not only nominal phrases but postpositional phrases can also participate in the genitive construction:

(23) [$_{PP}$Pari kara] no [$_{NP}$ hikooki]
Paris from Gen plane
plane from/of Paris

A note on the grammatical category of "postpositions" is in order here, because morphologically, they are particles just as *no* is. Functionally, they are Case-markers and are grouped along with nominative *ga* and accusative *o*. Syntactically, they can occur as the modifier in a genitive construction (i.e. (23)), but PPs in English cannot:

(24) an airplane (*of) from Paris

Secondly, English prepositions may be stranded, as shown in (25). *School* is interpreted as the complement of *to*, in the position occupied by ∅:

(25) the school that he went to ∅

In Japanese, however, this may not be. (26a) shows an ordinary phrase where *gakko* "school" is the complement of *e* "to". In (26b), the semantic equivalent of (25), *e* cannot be left stranded and is omitted:

(26) a. Kare-ga gakkoo e it-ta.
he-Nom school to go-Pst
He went to school.

b. [kare-ga ∅ (*e) it-ta] gakkoo
he-Nom to go-Pst school
school that he went

Thus, despite the fact that these particles are commonly referred to as "postpositions," they are very different from prepositions.

Quantificational adverbs and quantifiers can also appear in the position of the modifier:

(27) [$_{AP}$ takusan] no [$_{NP}$ hon]
many Gen book
many books

(28) [$_{QP}$ san-satu] no [$_{NP}$ hon]
three-CL Gen book
three books

Here the relationship is "quantification" rather than "modification," because the first part denotes the quantity of the head noun. Not all quantifiers establish the same relationship with the head noun:

(29) [$_{QP}$ san-kilo] no [$_{NP}$ hon]
three-kg Gen book
book (that weighs) three kilograms

In (29), *san-kilo* "three kilograms" describes the book, so the relationship is one of modification.

In sum, the genitive construction in Japanese is peculiar both semantically and syntactically. Semantically, a very wide range of relationships can be expressed (possession, part-whole, subgroup, pragmatic-social, metaphoric, complement-specification, grammatical, adverbial, quantification, etc.). Syntactically, it not only relates nominal phrases to the head noun, but also allows the association of postpositional phrases and quantificational phrases to the latter. These properties raise the question on the identity of *no*. Evidently, it is not just a genitive Case marker, as we have indicated in the glosses. We will discuss this issue in the following section, starting with a review on the literature.

1.3 The identity of *no*

1.3.1 The problem

At the beginning of this chapter, we assumed the following structure for the genitive construction ((1) is repeated here as (30)):

(30) $[_{DP}$ Taro$_i$ $[_D$ no $[_{NP}$ t_i hon]]]
Taro Gen book
Taro's book

Traditionally, *no* has been analyzed as the genitive Case-marker (Matsushita 1928). In minimalist terms, it has been proposed that the Case feature on *no* triggers the movement of *Taro* to Spec-DP (cf. Whitman 1999). However, as we have seen in 1.2, the position occupied by *Taro* may also be occupied by PP, AP, or QP. This is problematic because neither PP, AP, nor QP is "nominal" in the sense that they are apt for checking off the Case feature on *no.* If so, the construction must have a different syntactic structure when such phrases are chosen. Even if this is the case, the problem remains because the Case feature on *no* would be left unchecked and the derivation would be ruled out.

Alternatively, it has been claimed that *no* is a postposition (Kamio 1983)[4], in part for its semantic resemblance to *of* in English. But since postpositions do not take APs, QPs, or PPs as complements, the hypothesis cannot be generalized to the latter cases.

On the other hand, *no* in traditional Japanese grammar is classified as a conjoining particle along with *to* "and" and *ka* "or". It simply connects two nominal expressions in a way that the first one modifies the second one. Saito & Murasugi (1990:296) propose the following rule that descriptively captures this aspect of *no*:

(31) ∅→*no* / [$_{Y}$ X_Z], where X is DP or PP and
Y, Z are (projections of) N or D.

A similar proposal has been made by Kitagawa & Ross (1982) and Kitagawa (2005). They study the parallelism between Chinese and Japanese in prenominal modification constructions and propose that *no* is a Prenominal Modification Marker (MOD) that is inserted by the following rule[5]:

(32) MOD Insertion: [$_{XP}$ Y X] → [$_{XP}$ Y MOD X]

where: (i) X is some projection of [+N, -V] or [+D];
(ii) Y is any maximal projection modifying X;
(iii) MOD in modern Standard Japanese is *no*

(Kitagawa 2005)[6]

Both Saito & Murasugi's (1990) rule in (31) and Kitagawa & Ross's in (32) have the advantage of unifying the different types of phrases involved in the genitive construction, but fail to account for the Case-marking property of *no*. Moreover, as we have seen, "modification" is just one of the many semantic relationships that hold in

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[4] Kamio (1983) classifies *no* and other conjoining particles (e.g. *to* "and", *ka* "or") as postpositions, independently of their Case assigning properties.

[5] MOD Insertion is actually the first half of a rule that applies to nominal and clausal modifiers in general. The second half is a language particular rule that deletes *no* in complex NPs with overt heads:

no-Deletion: [$_{XP}$ Y *no* X] → [$_{XP}$ Y X]
where: (i) Y is tensed [+V]; and
(ii) X is lexically represented.

[6] This is a revised version of the rule. The original MOD Insertion Rule in Kitagawa & Ross (1982;23) is as follows: [$_{NP}$ X NP] → [$_{NP}$ X MOD NP], where X stands for any category functioning as a modifier and MOD in Japanese is *no*.

the genitive construction, so statement (ii) in (32) would only constitute a subgroup of the latter.

In sum, the problem lies in capturing the multifaceted properties of *no,* since in some cases it is a Case-marker and in other cases it is a "modification marker". If we assume it to be a genitive Case-marker, following the traditional view, we would have to posit another *no* for the constructions where Case-marking is not involved. On the contrary, if we assume it to be a modification marker, we would have to account for its Case-marking function when it attaches to nominal phrases. Needless to say, the ideal situation would be to attribute the different properties to one single *no*.

1.3.2 The null-headed genitive construction

The genitive construction can lack an overt head, and when it does, the head has a pronominal interpretation:

(33) (Talking about movies,)
[Kinoo no]-wa omosirokat-ta.
yesterday Top interesting-Pst
Yesterday's one(=movie) was interesting.

Adjectival phrases in Japanese may also lack an overt head:

(34) (Talking about movies,)
Kinoo [omosiroi-no]-o mi-ta.
yesterday interesting Acc see-Pst
(I) saw an interesting one (=movie) yesterday.

Traditionally, *no* in these cases has been analyzed as a pronominal element (Okutsu 1974, Kamio 1983, Mihara 1994). The fact that it generally corresponds to *one* in English, as the translation of the examples (33) and (34) shows, has also supported this hypothesis.

Okutsu (1974) argues that there is an operation called "*no-no* haplology" (*karyaku no*

no), where one of two consecutive occurrences of *no* is deleted. He assumes that the above constructions are headed by full NPs in the underlying structure. Then, the full NPs are substituted by the pronominal *no*:

(35) a. [omosiroi NP]→ [omoshiroi *no*]

b. [kinoo no NP]→ [kinoo ***no no***]

When the modifier is an adjective, as in (35a), substitution of the NP by *no* gives the desired result. When it is a noun, as in (35b), it yields two *no*'s. *No-no* haplology then applies and deletes one of the *no's*.[7]

However, as Kamio (1983)[8] points out, *no* differs from other pronouns in several respects. First, unlike other pronouns, it cannot form an NP alone:

(36) ***No**-o kat-ta.
Acc buy-Pst
(I) bought one.

Second, it cannot combine with determiners[9]:

(37) *[Ano **no**]-wa omoshiroi.
that Top interesting
That one is interesting.

The above properties suggest that *no* is a bound morpheme, like a clitic. But, Japanese does not have clitics, so it would be a unique element of Japanese morphology. Moreover, pronouns usually have paradigms. Even in Japanese, where there is no inflection for person, number and gender, personal pronouns have a paradigm, as shown in the following table:

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[7] The question of which of the two *no*'s is deleted is not discussed.

[8] Kamio (1983) concludes from the distribution of *no* and its possibility to combine with determiners if there is an intervening modifier that restrictive relative clauses in Japanese are sisters of the head and dominated by NP'.

[9] In Kamio's (1983) classification, demonstratives (*kono* "this", *sono* "that", etc.) and quantifiers (5-*dai* "5 vehicles", *subete* "all", etc.) are categorized as determiners.

Table 1. Personal pronouns in Japanese

	Singular	**Plural**
First person	*watasi*	*watasitati*
Second person	*anata*	*anatatati*
Third person	*kare/kanozyo*	*karera/kanozyotati*

Thus, it is dubious that *no* is a bound pronominal element.

In the previous section, we briefly introduced Kitagawa & Ross (1982) and Kitagawa's (2005) analyses of *no* as a Prenominal Modification Marker (MOD). In short, the latter is a morphological marker that indicates that the preceding phrase, namely, the one it is attached to, modifies the following NP. Under this hypothesis, what occupies the position of the head in the null-headed genitive construction is a null pronoun (*e*: phonologically null category):

(38) a. kinoo no *e*
yesterday MOD

b. omosiroi no *e*
interesting MOD

This analysis naturally accounts for the properties observed above. First, there is no need to stipulate "*no-no* haplology", because the head position is occupied by an empty pronoun in the underlying structure and no substitution takes place. Second, *no* does not stand alone nor combine with demonstratives because it is simply a marker of prenominal modification.

It also accounts for why null-headed genitive constructions are not possible when the head is intended as an adverbial noun, as in (39), or a direction word, as in (40), because the null pronoun is not adverbial or prepositional:

(39) [Gakusei no toki/**e*]-wa tanosikat-ta.
student Gen time Top fun-Pst
lit: The time of student was fun. (=It was fun when I was a student.)

(40) Simbun-wa [tukue no ue/*e]-ni aru.
newspaper-Top desk Gen on Loc be
The newspaper is on the desk.

Similarly, the null-headed genitive construction is not possible when the head noun is intended to be a formal noun (i.e. a noun that is a place holder and has no semantic content of its own) such as *koto* "thing/matter". This is expected if we assume that the head is a null pronoun, because a formal noun could not serve as its antecedent. In fact, the acceptability of a formal noun as the antecedent improves if certain semantic content can be inferred. Observe the following:

(41) a. [Kimi no koto/*e]-ga simpai-da.
you Gen matter Nom worried-be
(I) am worried about you.

b. [Gakkoo no koto/?e]-ga zenzen katazuka-nai.
school Gen matter Nom totally not-get-done
(I) can't get any of the matters of the university done.

c. [watasitati no koto/e]-ga barete-simat-ta.
we Gen matter Nom expose-Perf-Pst
Our matter (=secret) has been exposed.

In (41a), *koto* is merely a place holder because it has no meaning at all. In (41b), we know by *katazukanai* "not get done" that the object is something we can get done, for example, a job or a list of things to do. The null pronoun is acceptable provided that there is some contextual information, but would be marginal otherwise. In (41c), something that is ours and has regrettably come to light (*bareru* "be exposed", *simatta* is perfective with a connotation of regret) is understood as a secret, so a null pronoun is acceptable even without any context.

Thus, the hypothesis that *no* in the null-headed genitive construction has the same status as in the overt case and a null pronoun occupies the head position is less controversial than the traditional view that *no* itself is a pronominal element. We will adopt this view for our analysis of the null-headed genitive construction. However, the problem of the identity of *no*, namely that it marks genitive Case when a nominal

phrase precedes it, but it does not otherwise, remains unsolved. Kitagawa & Ross's (1982) proposal to treat *no* uniformly as a Prenominal Modification Marker (MOD) descriptively accounts for the facts, but does not provide any answer in this respect.

1.4 Summary

In this chapter, we have presented the first of the prenominal modifying constructions in Japanese, namely, the genitive construction, and discussed its properties. We have seen that it is unique in many ways. First, it hosts a wide variety of relationships, of which common ones such as possession, part-whole relation, modification, and subject-object relationship only constitute the core cases. Second, the prenominal modifier is not limited to noun phrases: it may also be a quantifier phrase (involving a quantificational adverb or a quantifier), or a postpositional phrase. Thus, contrary to the standard assumption that *no* in this construction is a genitive-Case marker, we have seen that it does not always fulfill this function. This observation led us to question the identity of *no*, together with its status when the construction lacks an overt head noun.

With regard to the status of *no* in the null-headed genitive construction, the traditional view has been that *no* is a pronominal element and the construction is derived by the application of a rule called *no-no* haplology (Okutsu 1974). We have argued against this view on the grounds that if that were the case, *no* would be a unique element of Japanese morphology. Alternatively, we have supported Kitagawa & Ross's (1982) (and Kitagawa 2005) view that *no* is a Prenominal Modification Marker (MOD) whose mere function is to overtly indicate that the preceding phrase modifies the following NP. This analysis has the advantage of doing without the rule of *no-no* haplology and capturing the null case in parallel with the overt case. Furthermore, it can account for instances of the genitive construction where Case-marking is not involved. However, the question of how *no* may mark genitive Case in some cases and not in others remains opens for future research.

Chapter 2 Adjectival Modification

In this chapter, we discuss the second type of modifying constructions, namely, adjectival phrases. In Japanese, there are two types of adjectives: "canonical adjectives" (*keiyoosi*) and "nominal adjectives" (*keiyoodoosi*) (the English terms are taken from Nishiyama 1999). Their differences lie in their origin, their conjugational pattern, and their compatibility with certain suffixes and modifiers. In both cases, the adjective (and the copula) bears tense, and is thus considered to have a clausal structure.

2.1 Canonical adjectives

Let us first look at "canonical adjectives" (*keiyoo*si) as the ones depicted in (1):

(1) a. Kono hon-wa **omosiro-i**.
this book-Top interesting-Cnc
This book is interesting.

b. Kono hon-wa **omosiro-i**-desu.
this book-Top interesting-Cnc-Pol
This book is interesting. (polite speech)

c. **Omosiro-i** hon-ga aru.
interesting-Adn book-Nom be
(There) is an interesting book.

When the adjective is used as a predicate, as in (1a), the conclusive form (Cnc; *syuusi-kei*) is employed. It marks the end of the sentence and normally appears at sentence-final position. As shown in (1b), the adjective may also be accompanied by the politeness (Pol) suffix *-desu*. When the adjective is used as a modifier, as in (1c), the adnominal form (Adn; *rentai-kei*)[1] is used. *Rentai-kei* literally means "form that continues a nominal element" (i.e. *ren* "continue"*, tai* "nominal"*, kei* "form") and signals that the clause in which it is contained is a modifier to the adjoining noun. In

[1] *Rentai-kei* is also referred to as the "attributive form".

Modern Japanese, the conclusive form and the adnominal form are identical except for in the copula.[2] But they serve different functions and are subject to selection[3].

Canonical adjectives are inflected for tense. When they are inflected for past tense, the suffix *-ta* is attached:

(2) a. Kono hon-wa **omosiro-kat-ta**.
this book-Top interesting-Cnt-Pst.Cnc
This book was interesting.

b. Kono hon-wa **omosiro-kat-ta**-desu.
this book-Top interesting-Cnt-Pst.Cnc-Pol
This book was interesting. (polite speech)

c. **omosiro-kat-ta** hon-wa kore da.
interesting-Cnt-Pst.Adn book-Top this be
(The) book (that) was interesting is this.

In (2a) and (2b), *-ta* attaches to the continuative form (Cnt; *renyoo-kei*)[4] and appears in the conclusive form because it occupies the sentence-final position. *Renyoo-kei*, which literally means "form that continues a verbal element" (i.e. *ren* "continue"*, yoo* "verbal"*, kei* "form"), is taken when a verbal element such as a tense suffix follows. In (2b), as in (1b), the adjective is followed by the politeness suffix *-desu*. In (2c), although there is no overt difference, we may say that *-ta* is in the adnominal form, because the whole phrase (the adjective in past tense) functions as a modifier of the head noun *hon* "book".

Negation is also incorporated in the adjective. The negative suffix *-nai* attaches to the continuative form:

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[2] As we will see in Chapter 4, overt distinction between the two forms existed in Classical Japanese until a phonological merger occurred during the 13th century (cf. Kinsui 1995).

[3] For example, sentence ending particles such as the interrogative *-ka* or the interactional *-ne* select for the conclusive form, while the modal particle *-hazu* "should" or the focus particle *-dake* "only" select for the adnominal form.

[4] See Nishiyama (1999) for the view that /k/ in *-katta* is an independent morpheme that functions as a predicative copula.

(3) a. Kono hon-wa **omosiro-ku-nai**.
this book-Top interesting-Cnt-Neg.Cnc
This book is not interesting.

b. **omosiro-ku-nai** hon
interesting-Cnt-Neg.Adn book
not-interesting book ("book that is not interesting")

When negation coincides with past tense, the negative suffix *-nai* appears in the continuative form to allow the affixation of the past tense suffix *-ta*:

(4) a. Kono hon-wa **omosiro-ku-na-kat-ta**.
this book-Top interesting-Cnt-Neg-Cnt-Pst.Cnc
This book was not interesting.

b. **omosiro-ku-na-kat-ta** hon
interesting-Cnt-Neg-Cnt-Pst.Adn book
was-not-interesting book ("book that was not interesting")

As for the nature of canonical adjectives, they are native Japanese words that are composed of one single morpheme. As we will see later, other native words that are "polymorphemic" and loan words fall in the category of nominal adjectives.

2.2 Nominal adjectives

The second type of adjectives in Japanese is *keiyoodoosi*, which literally means "adjectival verb" (i.e. *keiyoo* "adjectival, attributing"*, doosi* "verb"). In English, *keiyoodoosi* has been translated as "nominal adjectives" (Teramura 1982, Nishiyama 1999) or "adjectival nominals" (Miyagawa 1987). As the confusing terms suggest, this category shares properties with adjectives, nouns, and verbs. Miyagawa (1987) adopts Chomsky's (1970) lexical feature system ([+/-V, +/-N]) and defines it as [+V, +N].

As the glosses for (5) show, nominal adjectives are accompanied by the copula:

(5) a. Kono hon-wa **benri-da**.
this book-Top useful-Cop.Cnc
This book is useful.

b. Kono hon-wa **benri-desu**.
this book-Top useful-Cnc.Pol
This book is useful. (polite speech)

c. **Benri-na** hon-ga aru.
useful-Cop.Adn book-Nom be
(There) is a useful book.

In (5a), the adjective is used as a predicate and the copula appears in the conclusive form. (5b) shows the case with the politeness suffix *-desu*. In fact, *-desu* is a derived form of *-da*, so we may say that in (5b), the copula *-da* is replaced by the form *-desu*. In (5c), the adjective is used as a modifier and the copula appears in the adnominal form *-na*. Recall from 1.1 that apposition is one of the relationships that is expressed by the genitive construction. Here is example (17) from Chapter 1, repeated here as (6):

(6) sakka **no** Tanaka
writer Gen Tanaka
Tanaka, the writer

It was proposed that *no* in this case is best analyzed as the adnominal form of the copula, because the construction can be paraphrased by a copular sentence (Tokieda 1950, Okutsu 1978). The following is example (18), depicted as (7):

(7) Tanaka-wa sakka da.
Tanaka-Top writer be
Tanaka is a writer.

Thus, although nominal adjectives share with nouns the presence of the copula, the form used after nominal adjectives is *-na*, whereas after nouns, it is *-no*. The latter fact has been one of the strong reasons to claim that nominal adjectives form a lexical category independent from nouns.

When nominal adjectives are inflected for past tense, it is the copula that bears the inflection. So, in contrast to canonical adjectives, there is no morphological change in the nominal adjective:

(8) a. Kono hon-wa **benri-dat-ta**.
this book-Top useful-Cop.Cnt-Pst.Cnc
This book was useful.

b. Kono hon-wa **benri-desi-ta**.
this book-Top useful-Cnt.Pol-Pst.Cnc
This book was useful. (polite speech)

c. **Benri-dat-ta** hon-ga aru.
useful-Cop.Cnt-Pst.Adn book-Nom be
(There) is a was-useful book. ("There is a book that was useful.")

As with canonical adjectives, the copula must appear in the continuative form in order for the past tense suffix *-ta* to attach itself. *-Ta* in turn is in the conclusive form when it occupies sentence-final position, as in (8a), (8b), and in the adnominal form when it precedes the head noun, as in (8c).

Negation is also incorporated in the copula:

(9) a. Kono hon-wa **benri-de-wa-nai**.[5]
this book-Top useful-Cop.Cnt-Pt-Neg.Cnc
This book is not useful.

b. **benri-de-wa-nai** hon
useful-Cop.Cnt-Pt-Neg.Adn book
not-useful book ("book that is not useful")

Finally, when negation coincides with past tense, the negative affix *-nai* appears in the continuative form to allow the affixation of the past tense *-ta*:

(10) a. Kono hon-wa **benri-de-wa-na-kat-ta**.
this book-Top useful-Cop.Cnt-Pt-Neg-Cnt-Pst.Cnc
This book was not useful.

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[5] *Wa* in *de-wa-nai* is a particle that is inserted in the negative form of the copula.

b. **benri-de-wa-na-kat-ta** hon
useful-Cop.Cnt-Pt-Neg-Cnt-Pst.Adn book
was-not-useful book ("book that was not useful")

Regarding the origin of nominal adjectives, the majority are loan words from Chinese:

(11) *daizi* "valuable", *genki* "fine", *hen* "strange", *kantan* "simple", *kanzen* "complete", *zannen* "regrettable", *zyoozu* "skillful", *taihen* "awful", *yuumee* "famous", etc.

(cf. Jorden & Noda 1990, p. 224f, via Nishiyama 1999)

Loan words from other languages, mainly from English, also fall in this category. Here are several examples of nominal adjectives that come from English and French:

(12) Language of origin:
English: *riaru-na* "real", *suriringu-na* "thrilling", *modan-na* "modern";
French: *sikku-na* "chic", *abangyarudo-na* "avant-garde", syuuru-na "surréalistique"

On the other hand, there are also native nominal adjectives:

(13) *sizuka-na* "quiet", *sukoyaka-na* "healthy", *hisoka-na* "secret", *tasika-na* "certain", *haruka-na* "far", *sawayaka-na* "fresh", etc.

(Nishiyama 1999; 204)

Incidentally, all the examples above end with *-ka*. Canonical adjectives on the other hand, do not have this property. Nishiyama (1999) adopts Sanseido's (1983) hypothesis that the latter *-ka* is a "suffix that creates a nominal adjective" and points out that native nominal adjectives are bimorphemic or polymorphemic, in the sense that they are composed of the root and *-ka*. Thus, according to Nishiyama (1999), the following generalization holds: canonical adjectives consist of monomorphemic

native words, while nominal adjectives are composed of loan words and polymorphemic native words.

2.3 Canonical adjective versus nominal adjectives

Having shown the basic properties regarding the inflectional pattern and the origin of the two types of adjectives in Japanese, we will now discuss their syntactic properties. For ease of discussion, we will use Chomsky's (1970) lexical feature system, which distinguishes the four major lexical categories in English by the features [+/-V, +/-N]:

(14) Verbs: [+V, -N]
Nouns: [-V, +N]
Adjectives: [+V, +N]
Prepositions: [-V, -N]

First, as we have seen above, nominal adjectives share with nouns the property of being accompanied by the copula, while verbs and canonical adjectives bear their own inflectional suffixes and do not allow the copula. In this sense, nominal adjectives have the feature [+N] and canonical adjectives, [+V].

Further support for the [+N] feature of nominal adjectives and the [+V] feature of canonical adjectives comes from their compatibility with the modal suffix *-mitai* "seem like" and the conditional suffix *(ke)-reba* "if" (Miyagawa 1987; 44):

(15) affixation of *-mitai*:
a. nominal adjective: *sizuka-mitai* "seems to be quiet"
b. noun: *otoko-mitai* "seems like a man"
c. canonical adjective: **utukusi-mitai* "seems to be beautiful"
d. verb: **tabe-mitai* "seems to eat"

(16) affixation of *(ke)-reba*:
a. nominal adjective: **sizuka-reba* "if quiet"

b. noun: **sensee-reba* “if a teacher”
c. canonical adjective: *utukusi-kereba* “if beautiful”
d. verb: *tabe-reba* “if (you) eat”

In (15), we observe that *-mitai* selects for nominal adjectives and nouns, but does not select for canonical adjectives or verbs. For this selection to be possible, nominal adjectives must have a feature in common with nouns, namely, the [+N] feature. Conversely, in (16), *(ke)-reba* selects for canonical adjectives and verbs, but not for nominal adjectives or nouns. This indicates that canonical adjectives share a feature with verbs, namely, [+V].

Secondly, the modal suffix *-soo* “appears” selects for nominal adjectives, canonical adjectives, and verbs, but not nouns (Kageyama 1982, via Miyagawa 1987; 44):

(17) affixation of *-soo*:
a. nominal adjective: *sizuka-soo* “appears to be quiet”
b. noun: **otoko-soo* “appears to be a man”
c. canonical adjective: *utukusi-soo* “appears to be beautiful”
d. verb: *tabe-soo* “appears to eat”

Again, in order for the above selection to be possible, nominal adjectives must have a feature shared with canonical adjectives and verbs, that nouns do not have, namely, [+V]. Likewise, the adverb *zuibun* “quite a bit” can modify canonical adjectives, verbs, and nominal adjectives, but not nouns (Miyagawa 1987; 44):

(18) modification by *zuibun* “quite a bit”:
a. nominal adjective: *Zuibun sizuka-da*. “(It) is very quiet.”
b. noun: **Zuibun otoko-da*. “(It) is very a man.”
c. canonical adjective: *Zuibun utukusi-i*. “(It) is very beautiful.”
d. verb: *Zuibun tabe-ru*. “(He) eats a lot.”

Thus, accoding to Miyagawa (1987), the lexical features of nominal adjectives are

[+V, +N]. These features coincide with those of English adjectives. As for canonical adjectives, Miyagawa proposes that they are composed solely of the feature [+V], being neutral with respect to the [+/-N] feature.

2.4 The clausal nature of Japanese adjectives

As we have seen in 2.1 and 2.2, Japanese adjectives are inflected for tense. For this reason, it has traditionally been claimed that adjectival phrases have a clausal structure similar to that of relative clauses (Kuno 1973; Whitman 1981), or that they are derived from them (Okutsu 1974; Shibatani 1978)[6]. Baker (2003) presents three pieces of evidence that support the former hypothesis: (i) lack of reading ambiguity; (ii) the behavior of adjectives with respect to comparative deletion; and (iii) the way in which they are stacked.

2.4.1 Reading ambiguity

It has been observed that certain types of prenominal modifiers exhibit ambiguity, while relative clauses do not (cf. Siegel 1980). Observe the following examples:

(19) a. Olga is a beautiful dancer.
b. Olga is a dancer who is beautiful.

(19a) is ambiguous between an "intersective reading", where the interpretation is "Olga is a dancer and she is beautiful", and a "non-intersective reading", where the interpretation is "Olga dances beautifully" (but she is not necessarily beautiful). In contrast, (19b) only has the intersective reading and is not ambiguous. Thus, in English, adjectival modifiers allow both the intersective and non-intersective readings, but relative clauses only allow the intersective reading (cf. Baker 1996).

The following is a parallel example of (19) in Japanese:

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[6] See Nishiyama (1998, 1999) and Aoyagi (2001) for more recent proposals that adjectival modification involves the IP projection.

(20) Olga-wa utukusi-i dansaa da.
Olga-Top beautiful-Adn dancer be-Cnc

The unmarked interpretation is the intersective reading (i.e. Olga is a dancer and she is beautiful). The non-intersective reading (i.e. Olga dances beautifully) is very marginal or unacceptable[7]. In the following example, the modifier is a nominal adjective:

(21) Kare-wa yukai-na gaka da.
he-Top cheerful-Adn painter be-Cnc
He is a cheerful painter.

(21) is interpreted as a painter who is cheerful (i.e. intersective reading), and not as a person who paints in a cheerful way (i.e. non-intersective reading). Thus, Japanese adjectives, both canonical and nominal, parallel English relative clauses in that they do not exhibit reading ambiguity.

However, there are also cases that allow for the non-intersective reading:

(22) Kibisi-i simpan-ga nozomasi-i.
strict-Adn referee-Nom desirable-Cnc
A strict referee is desirable.
=someone who referees and is a strict person (intersective)
=someone who referees in a strict manner (non-intersective)

In (22), the canonical adjective *kibisii* "strict" can refer to a quality (i.e. a strict person) or to a manner (i.e. to referee in a strict manner). The two readings are possible and it is perhaps preferable to interpret the sentence under the non-intersective reading. Here is another example, this time with a nominal adjective:

[7] Nishiyama (1999: fn. 25) judges the non-intersective reading as marginally acceptable and concludes that the construction is not necessarily a relative clause. Hoshi (2002:15-16) also judges it as very marginal and attributes its low acceptability to what is assumed as the subject of *utukusii "beautiful"* (i.e. *yoosi "appearance"* or *odori "dance"*), an analysis which consequently supports the relative clause-like structure of Japanese adjectives. Baker (2003) cites a similar example and his informants judge the non-intersective reading impossible.

(23) Kono byooin-wa teinei-na kangofu-ga oo-i.
this hospital-Top careful-Adn nurse-Nom many
This hospital has many careful nurses.
=they are nurses and they are careful (intersective)
=the nurses treat the patients in a careful way (non-intersective)

Teinei-na "careful" can refer both to the personality of the nurses and the way in which they work. Again, the non-intersective reading is totally acceptable.

Thus, as Baker (2003) points out, Japanese adjectival phrases resemble English relative clauses with respect to the non-ambiguity of their readings. But a closer examination shows that depending on the adjective, Japanese adjectival phrases also parallel English adjectives. How exactly the reading ambiguity is produced in English adjectival modifiers and why only the intersective reading is possible in English relative clauses is beyond the scope of the present study and will not be relevant for the studies described in Chapter 6. As far as we are concerned, we may say that although Japanese adjectival modifiers behave in the same way as English relative clauses with respect to reading ambiguity, the two constructions are not entirely the same.[8]

2.4.2 Comparative deletion

In English, when an adjective modifies a noun prenominally, as in (24a) and (25a), comparative deletion is possible. But if the adjective is postnominal, as in (24b) and (25b), comparative deletion cannot take place (Bresnan 1973; via Hoshi 2002):

(24) a. John wants to come up with as **good** a solution as Christine did.
b. John wants to come up with a solution as **good** as *Christine did.

(25) a. John wants to find a **better** solution than Christine did.
b. John wants to find a solution **better** than *Christine did.

[8] In a different vein, Hoshi (2002, 2003) shows how Kayne's (1994) analysis of attributive adjectives cannot be applied to Japanese and entertains a hypothesis based on the nature of the complementizer to account for the reason why Japanese adjectival constructions cannot be D-CP structures.

Bresnan (1973) proposes that the impossibility of comparative deletion in the latter case is because it contains a reduced relative clause.

According to Ishii (1991; via Hoshi 2002), Japanese does not parallel English in this respect. As we have seen, Japanse adjectives as modifiers appear in the prenominal position. But comparative deletion is not possible, as the following example with a canonical adjective shows:

(26) ?*Taro-wa [Hanako-ga kat-ta yori] **nagai** kasa-o kat-ta.
Taro-Top Hanako-Nom buy-Pst than long umbrella-Acc buy-Pst
Taro bought a longer umbrella than Hanako bought.

(Hoshi 2002:17)

The situation is the same with nominal adjectives:

(27) ?*Taro-wa [Hanako-ga kat-ta yori] **osyarena** kasa-o kat-ta.
Taro-Top Hanako-Nom buy-Pst than fashionable umbrella-Acc buy-Pst
Taro bought a more fashionable umbrella than Hanako bought.

The above examples suggest that both canonical and nominal adjectives in Japanese are syntactically different from English adjectives.

2.4.3 Word order in stacked adjectives

The third piece of evidence that Japanese adjectives are more similar to relative clauses than adjectives in English comes from word order phenomena in stacking adjectives. It is a known fact that when more than one adjective modifies a noun in English, the order is relatively fixed:

(28) a. the small square house
b. *the square small house

(Baker 2003; 2)

In contrast, when relative clauses are stacked, the order is free:

(29) a. the house that's small that's square
b. the house that's square that's small

(Baker 2003; 3)

When adjectives are stacked in Japanese, there is no strong contrast as the one observed in (28), and the order of the adjectives is relatively free:

(30) a. tiisana sikakui ie
small square house

b. sikakui tiisana ie
square small house

(Sproat & Shih 1991, via Baker 2003)

Sproat & Shih (1991, via Baker 2003) propose that this is because Japanese adjectives do not form true attributive modification structures, but rather, are relative clauses.

Thus far, the three different types of evidence, namely, the availability of reading ambiguity, the possibility of comparative deletion, and the restriction in word order when stacking adjectives, all point to the fact that Japanese adjectival phrases differ syntactically from those in English, and rather resemble English relative clauses.

2.4.4 Adjectival clauses with C-elements

An additional piece of evidence that Japanese adjectival phrases have structures similar to English relative clauses comes from the fact that C-elements such as the interrogative marker *-kadooka* "whether" and the focus particle *-dake* "only" may attach to them:

(31) [$_{CP}$ kion-ga hiku-i-**kadooka** no] mondai
temperature-Nom low-Cnc-Int Pt question
question of whether the temperature is low

(32) [$_{CP}$ *pro*$_i$ tumarana-i-**dake** no] eiga$_i$
boring-Adn-Foc Pt movie
movie that is only boring

In (31), the adjective is the predicate of the subordinated clause and its head, *kion* "temperature", is the embedded subject, as can be seen by the fact that the latter is marked by the nominative Case particle *-ga*. The subordinate clause includes the interrogative marker *-kadooka* "whether". Thus, the subordinated clause must be a CP-structure, where the interrogative marker is in a position where it can express the force or type of the subordinate clause (cf. Rizzi 1997). In (32), we have the focus particle *-dake*. As we will see in Chapter 4, *-dake* is also an element that occupies a position in the C-system. Note that in these examples, the particle (Pt) *no* must appear at the clause-final position. This seems to be related to the fact that the adnominal form is not present at the clause-periphery, as has been the case in all the other examples discussed in this chapter. We will come back to this point in Chapter 4. The presence of C-elements in the adjectival clause inarguably shows that adjectival modifiers in Japanese are projected up to CP.

2.5 Summary

In this chapter, we have looked at the morphology and the syntax of Japanese adjectives. Japanese has two types of adjectives: "canonical adjectives" and "nominal adjectives". "Canonical adjectives" are characterized by the feature [+V], they are inflected for tense, and are composed of monomorphemic native words. "Nominal adjectives", on the other hand, are characterized by the features [+V, +N]. They are accompanied by the copula and they are composed of loan words and polymorphemic native words.

Unlike English adjectives, Japanese adjectival phrases have clausal structures similar to English relative clauses. This is supported by syntactic and semantic phenomena such as the lack of reading ambiguity, their behavior with respect to comparative deletion, and word order phenomena in stacking. Furthermore, Japanese adjectival

clauses may include C-elements such as the interrogative marker -*kadooka* or the focus particle -*dake.* This suggests that they are CP-projections.

Chapter 3 Sentential Modifiers

In this chapter, we will focus on sentential modifying constructions in Japanese, in particular, nominal complements, a subtype of relative clauses called "gapless relatives" (Murasugi 1991), and restrictive relative clauses. Regarding the latter, there is an on-going debate over whether Japanese restrictive relative clauses are base-generated, like nominal complements, or they involve movement, like relative clauses in English. We will review each of the opposing views and present new pieces of evidence that support the movement analysis.

3.1 Some basic properties of Japanese sentential modifiers

The first characteristic of Japanese sentential modifiers is that like adjectival clauses, they are head-final:

(1) [sinsi-ga fuku-o kite-iru] zizitu
gentleman-Nom clothes-Acc wear-be.Adn fact
the fact that the gentleman is wearing clothes

(2) [sinsi-ga e_i kite-iru] $fuku_i$
gentleman-Nom wear-be.Adn clothes
the clothes that the gentleman is wearing

(1) is a nominal complement and (2) is a relative clause. In (2), e_i indicates the gap where the head noun is interpreted.

Second, as the examples above show, Japanese sentential modifiers lack complementizers and relative pronouns. This has been one of the reasons to claim that relative clauses in Japanese are IP-structures (cf. Murasugi, 1991, 2000a,b). According to the latter hypothesis, (2) has the following structure, where the sentential modifier is an IP and is base generated in Spec-DP position:

(3) $[_{DP}[_{IP}$ sinsi-ga pro_i kite-iru] $[_{D'}$ D $fuku_i]$
gentleman-Nom wear-be.Adn clothes

Third, the embedded verb must, in principle, be in the adnominal form[1]. As with canonical adjectives, this is not immediately evident because except for the copula, there is no morphological distinction in Modern Japanese between the adnominal form and the conclusive form. However, the availability of suffixes that select for the adnominal form provides us with evidence that the embedded verb is in this form. The following examples show that the focus particle *-dake* "only", which as we already saw in the previous chapter (cf. 2.4.4) selects for the adnominal form, can attach itself to the embedded verb:

(4) [sinsi-ga fuku-o kite-iru-**dake** no] zizitu
gentleman-Nom clothes-Acc wear-be.Adn only Pt fact
the only fact that the gentleman is wearing clothes

(5) [sinsi-ga e_i kite-iru-**dake** no] $fuku_i$
gentleman-Nom wear-be.Adn only Pt clothes
the clothes that the gentleman is only wearing

Thus, we may say that the embedded verb in nominal complements and relative clauses takes the adnominal form.

Nominal complements differ from relative clauses semantically and syntactically. Its head is a "formal noun" that lacks semantic content (e.g. *fact, rumor,* etc.) and the modifying clause serves to complement it:

(6) [sinsi-ga fuku-o kite-iru] zizitu
gentleman-Nom clothes-Acc wear-be.Pre.Adn fact
the fact that the gentleman is wearing clothes

Japanese also has what may be considered as a subtype of nominal complements, called "gapless relatives" (cf. Murasugi 1991):

(7) [sakana-ga yakeru] nioi
fish-Nom cook smell
smell that fish cooks (=smell of fish being cooked)

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[1] As we will see later, other forms of the predicate are also allowed if the particle *no* is inserted at the end of the embedded clause.

(8) [doa-ga simaru] oto
door-Nom close sound
sound that door closes (=sound of the door closing)

In gapless relatives, the head noun has certain semantic content, but needs to be specified. The head noun of relative clauses, on the other hand, has proper semantic content and the modifying clause serves to restrict its denotation:

(9) [sinsi-ga e_i kite-iru] $fuku_i$
gentleman-Nom wear-be.Pre.Adn clothes
the clothes that the gentleman is wearing

Syntactically, nominal complements and gapless relatives do not have a gap inside the embedded clause where the head noun could be interpreted. They are assumed to be sentential adjuncts to the head noun. In contrast, relative clauses are predicates of the head noun and contain a gap where the latter is interpreted. The restricted interpretation is assumed to come from the movement of either the head noun or a relative operator.

3.2 The base-generation approach to restrictive relative clauses in Japanese

For many years, it has been assumed that Japanese relative clauses are base-generated, like other types of sentential modifiers. Two pieces of evidence have strongly supported this view: the lack of Subjacency effects and the absence of reconstruction effects. Recently however, there have been important developments on each of the effects. These new developments and additional facts to be presented here support the view that restrictive relative clauses in Japanese are not base-generated but are derived by movement.

3.2.1 The lack of Subjacency effects

Since Kuno (1973), it has been noted that relative clauses in Japanese do not observe

the Complex NP Constraint (Ross 1967, hereafter CNPC). That is, it is possible to extract an argument from within a relative clause and form a double relative construction, as in (10):

(10) [[_j _ i kite-iru] fuku$_i$-ga yogorete-iru] sinsi$_j$-ga i-ru.
wear-be.Adn clothes-Nom dirty-be.Adn gentleman-Nom be
There is a gentleman that the clothes that (he) is wearing are dirty.

This is not possible in English, as (11b) shows[2]:

(11) a. The clothes$_i$ that [the gentleman is wearing _$_i$] are dirty.

b. *There is a gentleman$_j$ that [the clothes$_i$ that [_$_j$ is wearing _$_i$]] are dirty.

Similarly, in Japanese, it is possible to relativize an argument that is interpreted inside a sentential subject (i.e. Sentential Subject Constraint; Ross 1967):

(12) [[watasi-ga _$_i$ a-u] koto]-ga muzukasi-i] hito$_i$-ga hitori i-ru.
I-Nom meet-Adn matter-Nom difficult-Adn person-Nom one be
There is one person that for me to meet (him) is difficult.

In (12), *hito* "person", which is interpreted inside the sentential subject as the complement of *a-u* "meet", is the head of the adjectival clause. Again, this is not possible in English:

(13) There is one person$_i$ that [for me to meet (*him)$_i$] is difficult.

The above facts suggest that while English *that*-type relative clauses are derived by

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[2] The same construction is marginally acceptable in Spanish:

(i) ??Hay un caballero$_j$ que la ropa$_i$ que [_$_j$ se ha puesto _$_i$] está sucia.
there-is a gentlemen that the clothes that self has put is dirty

The possibility of having a double relative construction in Spanish may be due to the availability of null subjects. If so, (i) can be analyzed as follows, where the head of the external relative is coindexed with a *pro* that occupies the embedded subject position, and there is no second relativization involved:

(ii) ??Hay un caballero$_j$ que la ropa$_i$ que [*pro*$_j$ se ha puesto _$_i$] está sucia.
there-is a gentlemen that the clothes that self has put is dirty

extracting the head noun from within the embedded clause, Japanese relative clauses are not.

3.2.2 The absence of reconstruction effects

It has been observed that A-bar movement gives rise to reconstruction effects, but A-movement does not:

(14) a. Left dislocation
*[That picture of himself$_i$]$_j$, John$_i$ liked it$_j$.

b. Topicalization
[That picture of himself$_i$]$_j$, John$_i$ liked t$_j$.

(examples drawn from Hoshi 2004)

That-type relative clauses in English exhibit reconstruction effects with respect to binding phenomena:

(15) a. [[The portrait of himself$_i$] [that John$_i$ painted _]] is extremely flattering.

b. *[[The portrait of John$_i$] [that himself$_i$ painted _]] is extremely flattering.

(Schachter 1973:32)

In (15a), *himself* is understood as referring to *John* and the sentence is well-formed, but the anaphor is not locally bound by the antecedent. Evidently, [the picture of himself$_i$] is reconstructed as the embedded object when the sentence is interpreted, and there, *himself* satisfies Condition A. (15b) in contrast is ungrammatical because the same process of reconstruction yields a configuration where *John*, an R-

expression, is bound by *himself* and violates Condition C.[3] The following examples illustrate the same point:

(16) a. [[The interest in [each other]$_i$] [that [John and Mary]$_i$ showed _]] was fleeting.

b. *[The interest in [John and Mary]$_i$] [that [each other]$_i$ showed _]] was fleeting.

(Schachter 1973:32)

(16a) is grammatical because [The interest in each other$_i$] is reconstructed in the embedded object position where *each other* is bound by its antecedent, *John and Mary*. In contrast, (16b) is ruled out because in the same configuration, *each other* would not be bound and *John and Mary* would be bound (i.e. violation of Conditions A and C). The presence of reconstruction effects in *that*-type relative clauses suggests that A-bar movement is involved in their derivation[4].

Hoji (1985) claims that the equivalent of (15) in Japanese is ungrammatical[5]:

(17) *[$_{DP}$ [$_{IP}$ John$_i$-ga e$_j$ taipusi-ta] [$_{DP}$ zibun$_i$-no ronbun]$_j$]
John-Nom type-Pst self-Gen paper
(him)self's paper that John typed

If there were reconstruction, *zibun* would be locally bound by its antecedent *John* and

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[3] Spanish *that*-type restrictive relative clauses also exhibit reconstruction effects:

(i) ?[Los retratos de [sí mismo]$_i$]$_j$ que [Picasso$_i$ pintó _$_j$] son impresionantes.
the portraits of himself that Picasso painted are impressive

(ii) *[Los retratos de Picasso$_i$]$_j$ que [[sí mismo]$_i$ pintó _$_j$] son impresionantes.
the portraits of Picasso that himself painted are impressive

Thus, despite allowing double relativization, as shown in fn.2, Spanish *que*-type restrictive relatives are derived by A-bar movement.

[4] Reconstruction effects are not as obvious in relative clauses with *wh*-pronouns (cf. Aoun & Li 2003):

(i) ??The portrait of himself which John painted is extremely flattering.

(ii) ??The interest in each other which John and Mary showed was fleeting.

[5] The interpretation of anaphors and pronouns in Japanese, and consequently their syntactic status have caused much controversy. Later, we will see alternative views to Hoji's (1985) analysis that lead to the opposite conclusion.

the sentence would be grammatical. This means that relative clauses in Japanese do not involve A-bar movement.

3.2.3 Base-generation analyses of Japanese relative clauses

Murasugi (1991) points out that in addition to the fact that relative clauses in Japanese do not show Subjacency effects, they cannot be derived by movement of the head noun because the trace inside the embedded clause would fail to be properly governed by its antecedent (i.e. the head noun) and violate the Empty Category Principle (cf. Stowell 1981). Thus, following Perlmutter (1972), she proposes that Japanese relative clauses are base-generated and that the gap position is occupied by a small *pro* that is co-indexed with the head noun:

(18) [sinsi-ga *pro*$_i$ kite-iru] fuku$_i$
gentleman-Nom wear-be.Adn clothes
the clothes that the gentleman is wearing

Furthermore, Hoji (1985) shows that there is an argument-adjunct asymmetry with respect to Subjacency. That is, while double-relativization of arguments is possible, as we observed above in (10), that of adjuncts is not[6]:

(19) *[[e$_i$ e$_j$ kubi-ni natta] hito$_j$-ga minna okotteiru] riyuu$_i$
was fired person-Nom all are angry reason
reason that all the people that were fired are angry

Hoji (1985)

This asymmetry is predicted under Murasugi's proposal, since a small *pro* can only be an argument and the relativization of adjuncts would necessarily involve movement.

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[6] Saito (1985) observes that the restriction on reason/manner relatives in Japanese is in fact tighter and that they must be clause-bound. Thus, while in the English example (i), *the reason* can be understood in the inner embedded clause as "the reason for which Mary was fired", *riyuu* "the reason" in the Japanese example (ii) can only be interpreted in the outer embedded clause as "the reason for which Mary thinks so":

(i) the reason$_i$ [(for which) John thinks [that Mary was fired t$_i$]

(ii) Mary-ga [John-ga e$_i$ kaetta to] omotteiru] riyuu$_i$
M-Nom J-Nom left Comp think reason
the reason (for which) Mary thinks that John left

Using also data from first language acquisition, Murasugi (1991) proposes that relative clauses are parametrized as CP or IP and Japanese has the IP option. That is why Japanese lacks complementizers and relative pronouns, and consequently, cannot derive relative clauses via movement. English, on the other hand, has the CP option of the parameter.

As for how Japanese relative clauses are licensed, Murasugi (1991) adopts Kuno's (1973) idea that the head noun of relatives are necessarily themes and proposes that they are licensed by a semantic relation of "aboutness", where the relative clause "says something about" the head noun. As Fukui & Takano (2000) note, "aboutness" is not a condition particular to Japanese. For example, some topicalized constructions in English are also licensed by "aboutness":

(20) As for sports, I like baseball best.

(example adopted from Lasnik 1989)

Thus, since Japanese relative clauses are base-generated IP-structures that are licensed by "aboutness", Murasugi (1991) concludes that Japanese lacks relative clauses all together and that they should be considered as "pure Complex NPs".

Murasugi (2000a,b) applies Kayne's (1994) analysis to extend her IP analysis to head-final relative clauses. We will discuss Kayne's approach in detail in 3.4. Kayne (1994) claims that relative clauses are universally D-CP structures. The relative clause is generated as the complement of D. Head-final relatives are derived in two steps. First, the head NP is extracted from within the relative clause to Spec-CP:

(21) $[_{DP}\ D\ [_{CP}\ NP_i\ [C\ [_{IP}\ \ldots t_i \ldots]]]]$

Head-initial relatives are spelled-out at this point. In the case of head-final relatives, the relative clause is further fronted to Spec-DP in order to derive the correct word order:

(22) $[_{DP}[_{IP}\ \ldots t_i \ldots]_j\ [_{D'}\ D[_{CP}\ NP_i\ [_{C'}\ C\ t_j\ ]]]]$

Murasugi (2000a,b) points out that t_i in the above structure is an A-bar trace and violates the Proper Binding Condition. She proposes that this problem can be avoided if the head noun is generated directly in Spec-CP and the semantic head is a *pro* coindexed with the head noun:

(23) $[_{DP}[_{IP} \ldots pro_i \ldots]_j [_{D'} D[_{CP} NP_i [_{C'} C\ t_j\ ]]]]$

In Kayne's (1994) analysis, IP is necessarily generated under CP in order for the head NP to raise to Spec-CP. But Murasugi argues that if the head NP is base-generated in Spec-CP, there is no need for IP to be generated at this position. Instead, it could be base-generated in Spec-DP. But if so, the projection of C would be redundant because it plays no role. Thus, Murasugi concludes that Japanese "relative clauses" must be "pure complex NPs" and have the following D-IP structure:

(24) $[_{DP}[_{IP} \ldots pro_i \ldots] [_{D'} D\ NP_i]$

From a typological point of view, it has also been suggested that Japanese relative clauses are simply adjoined to the head noun. Comrie (2002) reports that in addition to the four types of relative clauses (*non-reduction type, pronoun-retention type, relative-pronoun type, gap strategy type*; cf. Comrie 1989)[7] that are recognized in the literature, there are two more types: *adjoined relative clauses*, which are found in Australian Aboriginal languages (first noted by Hale 1976), and *general noun-modifying constructions* or *attributive clauses*, which are found in some Asian languages such as Ainu, Japanese (cf. Matsumoto, 1988, 1997), Korean, Chinese,

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[7] In the *non-reduction type,* the head noun is explicitly encoded in the relative clause:
(i) With which knife the man killed the chicken, Ram saw that knife.
In the *pronoun-retention type,* the head noun is encoded as an ordinary pronoun:
(ii) I saw the woman that Hasan gave the potato to her.
In the *relative-pronoun type,* the head noun is encoded as a special pronoun:
(iii) The fox saw the rabbit with whom the chicken danced.
In the *gap strategy type,* there is no explicit encoding of the head noun:
(iv) The man saw the chicken the fox had killed [ ].
(Comrie 1989; 147-153)

some Sino-Tibetan languages, the Dravidian languages[8], and some Turkic languages. The languages that have the latter type of relative clauses characteristically have zero anaphors, they can express *such-that* clauses or the *fact-S* construction with relative clauses (i.e. nominal complements, in our terms), and they show no Island effects. As we have seen above, Japanese fits this description.

Syntactically, general noun-modifying constructions involve no movement and the modifying clause is simply attached to the head noun under a "loose semantic relationship". Its well-formedness is determined by semantic and pragmatic factors rather than grammatical relationships, which ultimately depends on whether a native speaker can readily establish a plausible interpretation. This also accounts for the semantically wide variety of gapless relatives in Japanese. Hence, under this view, Japanese has only one construction for sentential modification, namely, the *general noun-modifying construction*. In essence, this is in accordance with Murasugi's claim that Japanese only has pure complex NPs.

3.2.4 A note on "aboutness"

Let us take a moment to reflect on the condition of "aboutness". As we saw earlier, the idea of "aboutness" as the licensing condition of Japanese relative clauses was first given by Kuno (1973), who claimed that the heads of relative clauses were not ordinary nouns, but themes. However, Kuno comments in a footnote that it is not sufficient that the comment part simply has something to do with the theme. He cites an example from James McCawley, which we reproduce in (25):

(25) *U.S. Steel-wa boku-no apaato-no mado-ga kitanai.
U.S. Steel-Top I-Gen apartment-Gen window-Nom dirty
Speaking of U.S. Steel, the windows of my apartment are dirty.

Kuno (1973:254)

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[8] The Dravidian languages are a family of some 70 languages spoken in South Asia; mainly in India, Pakistan, and Sri Lanka.

The above example is ungrammatical even if *U.S. Steel* is responsible for the dirty window. Since relativizing *U.S. Steel* would yield an appositive clause and we would like to restrict our attention to restrictive relatives, let us slightly change (25) and suppose that we are talking about *steel*:

(26) *Tetu-wa boku-no apaato-no tesuri-ga tatta 3-kagetu-de sabita.
steel-Top I-Gen apartment-Gen railing-Nom just 3-CL-Obl got-rusty
Speaking of steel, the railing of my apartment got rusty in just 3 months.

Like (25), the theme *tetu* "steel" is the material of the railing and there is an aboutness relation between the theme and the comment, but the example does not make sense. A gapless relative is also odd:

(27) ??[boku-no apaato-no tesuri-ga tatta 3-kagetu-de sabita] tetu-ni
I-Gen apartment-Gen railing-Nom just 3-CL-Obl got-rusty steel-Dat
sabidomesyori-o hodokosi-tai.
antirust treatment-Acc apply-want
I want to apply an antirust treatment on the steel that the railing of my apartment got rusty in just 3 months.

Thus, it seems that "aboutness" has to be restricted in some way. Matsumoto (1988) points out that pragmatic factors are involved. This is illustrated in the following examples of double-relative constructions. Our first example, (28), is about a dog that was adored by his deceased master. He goes to the station every evening to greet his master (although he has passed away). The internal head, *hito* "person", is understood as the embedded subject and the external head, *inu* "dog", is understood as the embedded object:

(28) [[$\__i$ $\__j$ kawaigatte-i-ta] hito$_i$-ga nakunat-ta] inu$_j$-ga maiban
adore-be-Pst person-Nom die-Pst dog-Nom every.evening
eki-made kainusi-o mukae-ni ki-ta.
station-Loc master-Acc greet-to come-Pst
The dog that the person who adored (him) died came to the station every evening to greet (his) master.

Our second example, (29), has the same syntactic structure as (28): the internal head,

kodomo "child", is intended as the embedded subject and the external head, *inu* "dog", is intended as the embedded object. The example is supposed to mean that a dog is crying every evening because his master, a child, has died. However, the example is ungrammatical:

(29) *[[$_i$ $_j$ katte-i-ta] kodomo$_i$-ga sinde-simat-ta] inu$_j$-ga
keep-be-Pst child-Nom die-Perf-Pst dog-Nom

maiban naite-iru.
every.evening cry-be

The dog that the child who kept (the dog) died is crying every evening.

Matsumoto explains this contrast in terms of different degrees of familiarity. The first example immediately reminds us of the famous story of the dog, Hachiko[9]. This background information helps us interpret (28) correctly. The second example is odd in two ways. Since Japanese is a *pro*-drop language and null subjects are abundant, the internal head is interpreted as the embedded object by default. But "a child kept by someone" does not make sense under normal circumstances. Second, *sindesimatta (has died)* is intransitive, so we do not expect to find a head noun after an embedded clause with a subject.

As we saw earlier, the "aboutness" condition also licenses certain topic constructions in English (repeated from (20)):

(30) As for sports, I like baseball best.

However, English does not have general noun-modifying constructions like Japanese. It would be a preferred option given that it is more "economic" than movement. If it is because of the restrictive interpretation, it is curious why Japanese could obtain the same interpretation without movement. This suggests that "aboutness" is not a sufficient condition to derive the semantics of restrictive relative clauses in Japanese,

[9] The story of Hachiko is known to everyone familiar with Japan. The dog lived in the 1920's in central Tokyo. Every day, he saw his master off at the front door and greeted him at the station at the end of the day. One day, his master suffered a sudden death and did not return on his usual train. However, Hachiko kept appearing at the station waiting for his master's return for over 10 years until his own death, even after he was given away. His unfading loyalty touched the heart of all the passers-by.

and that movement is also likely to be involved in their syntactic derivation.

3.3 The movement approach to restrictive relative clauses in Japanese

In the previous section, we discussed the base-generation approach to Japanese restrictive relative clauses, which has been supported by the lack of Subjacency effects, reconstruction effects, and typological observations. In this section we will see how important developments on the very evidence that substantiated the base-generation approach point to the need to abandon it in favor of the movement approach.

3.3.1 On the lack of Subjacency effects

Inoue (1976) and Hasegawa (1981) note that the environment in which CNPC can be violated is limited to two contexts (viz. Inoue-Hasegawa's generalization). First, the extracted NP must be the subject of the inner relative clause.[10] In (31a), the subject of the inner relative is extracted and the result is grammatical, but in (31b), the object of the inner relative is extracted and the result is ungrammatical:

(31) a. [[_j _i kite-iru] fuku$_i$-ga yogorete-iru] sinsi$_j$
wear-be clothes-Nom dirty-be gentleman
gentleman who the clothes that (he) is wearing are dirty.

b. *[[_j _i kite-iru] sinsi$_j$-ga koron-da] fuku$_i$
wear-be gentleman -Nom fall-Pst clothes
clothes that the gentleman who was wearing fell

Second, the head of the inner relative must serve as the subject of the outer relative:

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[10] The generalization also applies to topicalized NPs. In the following example, *ano sinsi* "that gentleman" is extracted from the embedded subject position, but the result does not violate the CNPC:

(i) Ano sinsi$_j$-wa [[_j _i kite-iru] fuku$_i$-ga yogorete-iru.
that gentleman-Top wear-be clothes-Nom dirty-be
That gentleman, the clothes that he is wearing are dirty.
(Kuno 1973)

(32) a. [[_j _i kai-ta] e_i-ga naku-nat-ta] $kodomo_j$-o mikake-ta.
draw-Pst picture-Nom lose-become-Pst child-Acc see-Pst
(I) saw the child that the picture that (he) drew got lost.

b. *[Inu-ga [_j _i kai-ta] e_i-o yabut-ta] $kodomo_j$-o mikake-ta.
dog-Nom draw-Pst picture-Acc rip-Pst child-Acc see-Pst
(I) saw the child that the dog ripped the picture that (he) drew.

In (32a), the inner relative is the subject of the outer relative, whereas in (32b), it is the object and the result is ungrammatical. Thus, the violability of CNPC does not only depend on the argument-adjunct asymmetry, as claimed by Hoji (1985), but also on the subject-object asymmetry. This is a fundamental problem for the base-generation approach, since small *pro*'s can be generated as subjects as well as objects. Moreover, if the non-violation of CNPC is conditioned, it means that some relative clauses in Japanese are derived by movement.

Ishizuka (2009) observes that there are further restrictions on the non-violation of CNPC. First, the relativized head and the subject of the outer relative must stand in a genitive relation in the frame of "possessor-Gen possessee":

(33) a. [[_j _i kite-iru] $fuku_i$-ga yogorete-iru] $sinsi_j$-o mikake-ta.
wear-be clothes-Nom dirty-be gentleman-Acc see-Pst
(I) saw a gentleman who the clothes that (he) is wearing are dirty.

b. [[_j _i kai-ta] e_i-ga naku-nat-ta] $kodomo_j$-o mikake-ta.
draw-Pst picture-Nom lost-become-Pst child-Acc see-Pst
(I) saw a child that the picture that (he) drew was lost.

In (33a), partially repeated from (31a), *the clothes* are the *gentleman*'s and in (33b), repeated from (32a), *the picture* is the *child*'s. Apparently, this is a stronger requirement than those of Inoue-Hasegawa's generalization:

(34) *[[_j _i hajimete mi-ta] inu_i-ga oborete-ita] $sinsi_j$-wa
first.time see-Pst dog-Nom drown-be.Pst gentleman-Top
isoide umi-ni tobikon-da.
hastily sea-Loc jump.into-Pst
The gentleman who saw that the dog that (he) saw for the first time was drowning hastily jumped into the sea.

In (34), the head of the inner relative, *inu* "dog", is the subject of the outer relative and the subject of the inner relative, *sinsi* "gentleman", is the head of the outer relative. Inoue-Hasegawa's generalization is satisfied but the result is ungrammatical. This can be attributed to the fact that according to the context, the two head nouns are not in a possessive relation.[11]

Second, the predicate contained in the outer relative must be of the unaccusative-type. These include unaccusatives, middles (i.e. those with the middle morpheme *-(r)are*), passives, adjectival predicates and nominal predicates:

(35) a. Unaccusative

[[_i _j kawaigatte-i-ta] inu$_j$-ga **sin-da**] kodomo$_i$-ga naite-iru.
adore-be-Pst dog-Nom die-Pst child-Nom cry-be
The child that the dog that (he) adored died is crying.

b. Middle

[[_i _j kite-iru] fuku$_j$-ga **yog-orete-iru**] kodomo$_i$-ga naite-iru.
wear-be clothes-Nom dirty-Mid-be child-Nom cry-be
The child that the clothes that (she) is wearing are dirty is crying.

c. Passive

[[_i _j kawaigatte-i-ta] inu$_j$-ga ookami-ni **koros-are-ta**] kodomo$_i$-ga naite-iru.
adore-be-Pst dog-Nom wolf-Dat kill-Pas-Pst child-Nom cry-be
The child that the dog that (he) adored was killed by a wolf is crying.

---

[11] The double relative construction in Spanish is not subject to this condition:

(i) ?Han entrevistado al socorrista$_j$ que [[el niño$_i$ que [_j salvó _j]] todavía está en el hospital].
have intervied the lifeguard that the boy that saved still is in the hospital
They have interviewed the lifeguard that the boy that (he) saved is still in the hospital.

(ii) ?El joven$_j$ que [[la anciana$_i$ que [_j ayudó _j]] era la madre del alcalde]
the young-man that the old-woman that helped was the mother of-the mayor
ha salido en la televisión.
has come-out in the television
The young man that the old woman that (he) helped was the mayor's mother has been on TV.

In (i) *socorrista* "lifeguard" and *niño* "boy" are not in a possessive relation and neither are *joven* "young man" and *anciana* "old woman" in (ii). Nonetheless, the examples are marginally acceptable in the sense that native speakers would normally employ a different word order and avoid using a double relative construction. The grammaticality of these examples, along with the facts presented in footnotes 2 and 3, suggests that the double relative construction in Spanish is derived in a different manner than in Japanese.

d. Adjectival Predicate

[[_i _j kite-iru] fuku$_j$-ga itumo **kitanai**] kodomo$_i$-ga naite-iru.
wear-be clothes-Nom always dirty child-Nom cry-be
The child that the clothes that (he) is wearing is always dirty is crying.

e. Nominal Predicate

[[_i _j sonkeisuru] hahaoya$_j$-ga **zyoyuu dat-ta**] shoozyo$_i$-ga naite-iru.
respect mother-Nom actress be-Pst girl-Nom cry-be
The girl that the mother (she) respects was an actress is crying.

Transitive verbs and unergative verbs, on the other hand, are inadequate as the outer predicate:

(36) a. Transitive

*[[_i _j kawaigatte-i-ta] inu$_j$-ga roozin-o **kan-da**] kodomo$_i$-wa awate-ta.
adore-be-Pst dog-Nom old-man-Acc bite-Pst child-Top panic-Pst
The child that the dog that (he) adored bit the old man panicked.

b. Unergative

*[[_i _j kawaigatte-i-ta] inu$_j$-ga roozin-ni **hoe-ta**] kodomo$_i$-wa awate-ta.
adore-be-Pst dog-Nom old-man-Obl bark-Pst child-Top panic-Pst
The child that the dog that (he) adored bit the old man panicked.

Thus, the lack of Subjacency effects is only true in limited contexts and cannot be considered as evidence against movement.

3.3.2 On the absence of reconstruction effects

Recall Hoji's (1985) example for the absence of reconstruction in Japanese relative clauses, (17), now depicted as (37):

(37) *[$_{DP}$ [$_{IP}$ John$_i$-ga e$_j$ taipusi-ta] [$_{DP}$ zibun$_i$-no ronbun]$_j$]
John-Nom type-Pst self-Gen paper
self's paper that John typed

The problem with this sentence is that, as Hoshi (2004) points out, it is quite acceptable for many Japanese speakers. He cites another example from Ishii (1991),

shown below in (38). Ishii (1991) claims that reflexive anaphors such as *kare-zisin* "himself" also show reconstruction effects:

(38) [John$_i$-ga e$_j$ taipusi-ta] [kare-zisin$_i$-no ronbun]$_j$
John-Nom type-Pst him-self-Gen paper
paper of himself that John typed

But, *kare-zisin* is also problematic in that it behaves like a pronoun and can appear without an antecedent:

(39) (Referring to the the president's speech,)
Kare-zisin no kotoba o inyousuru to, …
himself Gen words Acc quote if
If we quote words of himself (=his own words)…

In fact, the problem lies in the nominal expression *zibun* (and *zisin*), since there has never been a consensus on its status, the reason being that it is both reflexive and a pronominal, and has some peculiar properties. When *zibun* behaves like a reflexive, it needs to be locally bound and it generally requires to be bound by the subject:

(40) Takasi$_i$-ga zyoosi$_j$-ni zibun$_{i/*j}$-o suisensi-ta.
Takasi-Nom boss-Dat self-Acc recommend-Pst
Takasi$_i$ recommended self$_{i/*j}$ to boss$_j$.

(Motomura 2001)

When it behaves like a pronoun, it allows long-distance binding:

(41) Takasi$_i$-ga [Kenzi$_j$-ga zibun$_{i/j}$-o suisensi-ta to] omot-ta.
Takasi-Nom Kenzi-Nom self-Acc recommend-Pst Comp think-Pst
Takasi$_i$ thought that Kenzi$_j$ recommended self$_{i/j}$.

(Motomura 2001)

Returning to Hoji's controversial example (37), if one interprets *zibun* as a reflexive, it must be reconstructed. On the contrary, if one interprets it as a pronoun, it cannot be reconstructed. Thus, we must create a context in which *zibun* can only be interpreted as an anaphor. In this regard, consider the following example:

(42) [John$_i$-no titioya]$_j$-ga tuini zibun$_{*i/j}$-no sakuhin-o happyoosi-ta.
John-Gen father -Nom finally self-Gen work-Acc present-Pst
John's father finally presented work of self.

The antecedent of *zibun* can be *John-no titioya* "John's father" that c-commands it, but it cannot be the possessor, *John*. Since *zibun* here is locally bound, it is an anaphor. When it is inside a relative clause, where it lacks a local antecedent at the surface structure, the clause is grammatical:

(43) [[John$_i$-no titioya]$_j$-ga tuini happyoosi-ta] [zibun$_{*i/j}$-no sakuhin]-ga
John-Gen father -Nom finally present-Pst self-Gen work-Nom
syoo-o uke-ta.
prize-Acc receive-Pst
Work of self that John's father finally presented received a prize.

The well-formedness of (43) evidences that reconstruction does occur in Japanese relative clauses. The Japanese version of Schachter's (1973) examples (cf. (37)) with a slight modification so that *zibun* can only be interpreted as anaphoric yields the same results, as shown by the grammaticality of (44a):

(44) a. [$_{DP}$[[John$_i$-no titioya]$_j$-ga t$_k$ kai-ta] [$_{DP}$ zibun$_{*i/j}$-no syoozooga]$_k$]-wa
John-Gen father-Nom paint-Pst self-Gen portrait-Top
joodekida.
well-done
The portrait of himself$_{*i/j}$ that John$_i$'s father$_j$ painted is well done.

b. *[$_{DP}$[zibun$_{*i/*j}$-ga t$_k$ kai-ta] [$_{DP}$ [John$_i$-no titioya]$_j$ -no syoozooga]$_k$]-wa
self-Nom paint-Pst John-Gen father-Gen portrait-Top
joodekida.
well-done
The portrait of John$_i$'s father$_j$ that self$_{*i/*j}$ painted is well done.

Recall that reciprocal pronouns are also reconstructed (example (16) is repeated here as (45)):

(45) a. [[The interest in [each other]$_i$] [that [John and Mary]$_i$ showed _]]
was fleeting.

b. *[The interest in [John and Mary]$_i$] [that [each other]$_i$ showed _]] was fleeting.

(Schachter 1973:32)

The Japanese counterpart with *otagai* "each other" shows the same pattern as English:

(46) a. [$_{DP}$ [[John to Mary]$_i$-ga t_j mise-ta] [$_{DP}$ otagai$_i$-e-no kansin]$_j$]
John and Mary-Nom show-Pst each other-Obl-Gen interest
-wa honmono dat-ta.
-Top real be-Pst
The interest in each other$_i$ that [John and Mary]$_i$ showed was real.

b. * [$_{DP}$ [Otagai$_i$-ga t_j mise-ta] [$_{DP}$ [John to Mary]$_i$-e-no kansin]$_j$]-wa
each other-Nom show-Pst John and Mary-Obl-Gen interest-Top
honmono dat-ta.
real be-Pst
**The interest in [John and Mary]$_i$ that each other$_i$ showed was real.*

There is another test that provides further support for the existence of A-bar movement in Japanese relative clauses, namely, the weak crossover (WCO) phenomenon[12]. The latter has traditionally been considered as structural "crossing" (Postal 1971):

(47) ??Who$_i$ does his$_i$ mother like t_i

In (47), *who* is fronted to CP crossing a pronoun that it is coindexed with. When the pronoun binds the trace, the level of ungrammaticality is stronger (viz. Strong crossover). In a weak crossover configuration, the pronoun does not bind the trace and the acceptability is marginal.

Now, consider the following examples that include quantifiers:

---

[12] I am thankful to Valentina Bianchi for pointing this out to me.

(48) a. Every boy$_i$ supports his$_i$ father.
b. ??His$_i$ father supports every$_i$ boy.

The quantifiers are raised at LF (viz. Quantifier Raising) and yields the following structures respectively:

(49) a. [Every boy$_i$]$_j$ [that t$_j$ supports his$_i$ father].
b. ??[Every$_i$ boy]$_j$ [that his$_i$ father supports t$_j$].

(49b) is marginal because it creates a WCO configuration where the quantifier crosses the pronoun it is coindexed with. Lasnik & Stowell (1991) propose that WCO should be considered as a filter that applies at LF after Quantifer Raising[13]:

(50) In a configuration where pronoun P and trace T are bound by a quantifier Q, T must c-command P.

Since Quantifier Raising involves A-bar movement, we can use the WCO effect as another test on the derivation of relative clauses. Consider the following pair of examples:

(51) a. [every boy$_i$]$_j$ that [t$_j$ supports his$_i$ father]
b. ??[every boy$_i$]$_j$ that [his$_i$ father supports t$_j$]

In both examples, the quantifier, *every boy,* is relativized and later undergoes Quantifier Raising. (51a) satisfies the condition in (50) and the relative clause is well-formed. (51b), in contrast, is in a WCO configuration and the relative clause cannot be construed in accordance with the indexation.

Turning to Japanese, the situation is not clear at first sight:

(52) a. ?*[t$_j$ kare$_i$-no titioya-o ooensuru] [subete-no otokonoko$_i$]$_j$
he-Gen father-Acc supports all-Gen boy
all boys that supports his father

---

[13] See Pica & Snyder (1995) for yet another view on WCO based on quantifier scope preferences.

b. *[kare$_i$-no titioya-ga t_j ooensuru] [subete-no otokonoko$_i$]$_j$
he-Gen father-Nom supports all-Gen boy
all boys that his father supports

Again, the problem lies in the peculiar properties of nominal expressions in Japanese: (i) overt pronouns cannot be construed as variables (while *zibun* and null pronouns can); and (ii) overt pronouns can only refer (cf. Saito 1981, Saito & Hoji 1983). These are illustrated in the following examples:

(53) John$_i$-ga [**zibun$_i$-ga/kare$_i$-ga** Mary-ni kirawarete-iru to]
John-Nom self-Nom/he-Nom Mary-Dat dislike-be Comp
omoikonde-iru (koto)
convince-be fact
John$_i$ is convinced that he$_i$ is disliked by Mary.

(54) Daremo$_i$-ga [**zibun$_i$-ga/*kare$_i$-ga** Mary-ni kirawarete-iru to]
everyone-Nom self-Nom/he-Nom Mary-Dat dislike-be Comp
omoikonde-iru (koto)
convince-be fact
Everyone$_i$ is convinced that he$_i$ is disliked by Mary.

In (53), the antecedent *John* is an R-expression and both *zibun* and the overt pronoun *kare* 'he' are acceptable. In (54), the antecedent *daremo* 'everyone' is a quantifier and *zibun* can be construed as a variable, but *kare* cannot.

Returning to (52), when we restate *kare* "he" with *zibun* "self", we obtain the following pattern:

(55) a. [t_j zibun$_i$-no titioya-o ooensuru] [subete-no otokonoko$_i$]$_j$
he-Gen father-Acc supports all-Gen boy
all boys that support fathers of selves

b. *[zibun$_i$-no titioya-ga t_j ooensuru] [subete-no otokonoko$_i$]$_j$
he-Gen father-Nom supports all-Gen boy
all boys that father of self supports

In (55b), the object trace does not c-command the pronoun, yielding a WCO configuration. In (55a), on the other hand, the trace c-commands the pronoun and the

relative clause is grammatical.

Here are similar examples:

(56) a. [t_j zibun$_i$-no tiimu-o ooensuru] [subete-no kantoku$_i$]$_j$
self-Gen team-Acc support all-Gen coach
all/every coach that supports team of self

b. *[zibun$_i$-no tiimu-ga t_j ooensuru] [subete-no kantoku$_i$]$_j$
self-Gen team-Nom support all-Gen coach
all/every coach that team of self supports

The results in Japanese parallel those in English, meaning that Japanese relative clauses involve A-bar movement.

In sum, a re-examination of the evidence on reconstruction and additional evidence from the WCO phenomenon suggest that A-bar movement of the head noun is involved in the derivation of relative clauses in Japanese.

3.3.3 The derivation of double relative clauses

We have seen that contrary to previous assumptions, relative clauses in Japanese are derived by A-bar movement. Our next question is how double relative clauses can be derived without violating Subjacency.

Kuroda (1986a,b) claims that there is a syntactic position in Japanese called the "major subject position" where an object of a stative predicate[14] is assigned nominative Case:

(57) Masao-ni-wa eigo-ga waka-ru.
Masao-Dat-Top English-Nom understand
Masao understands English.

---

[14] Stative predicates include adjectives, copular verbs, predicates that enter in an ergative pattern (e.g. *wakaru* "understand"), some complex predicates such as *–nikui* in tough constructions, and the potential suffix *–eru*.

In (57), the verb *wakaru* "understand" takes two arguments, an agent and an object. The agent is marked with dative Case *-ni* and the object is marked with the nominative Case *-ga.* This is also the case with the following complex predicates:

(58) a. Masao-nitotte eigo-ga Nihon-de hanasi-nikui.
Masao-for English-Nom Japan-Loc speak-hard
For Masao, English is hard to speak in Japan.

b. Masao-ni-wa eigo-ga hanas-eru.
Masao-Dat-Top English-Nom speak-can
Masao can speak English

(58a) is a tough construction, where *-nikui* is an adjectival suffix that means "difficult to". In (58b), *-eru* is a modal suffix that means "can". In both examples the object *eigo* "English" is marked with nominative Case.

The major subject position is assumed to be located at sentence-initial position by adjunction to the S node. The NP generated in complement position is moved here by Subjectivization (cf. Kuno 1973) and receives nominative Case[15]:

(59) ... $[_S[_{NP}$ eigo-ga$]_i$ $[_S$... t_i hanasi-nikui].
English-Nom speak-hard.Pre.

As for the non-violation of the CNPC in topicalized and relativized constructions, Kuroda explains that there is no violation because movement takes place from the major subject position in the main clause. That is, (10) has the following underlying structure:

(60) $[_S$ sinsi$_j$-ga $[_S$ $[e_j$ $_i$ kite-iru] fuku$_i$-ga yogorete-iru]]
gentleman-Nom wear-be clothes-Nom dirty-be

Sinsi "gentleman" is base-generated at the major subject position of the main clause and coindexed with an empty category, *e*, inside the complex NP. From there, it is topicalized (or "thematized" in Kuno's (1973) terms):

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15 Thus, Kuroda (1986a) claims that contrary to the assumption at the time that Japanese lacks syntactic movement, there is at least NP-movement.

(61) [S' Sinsi$_j$-wa [S t_j [S [e_j _$_i$ kite-iru] fuku$_i$-ga yogorete-iru]]]
gentleman-Top wear-be clothes-Nom dirty-be

Assuming that topicalization (or thematization) feeds relativization (cf. Kuno 1973), the well-formedness of (10) is now explained because *sinsi* is extracted from the topic position:

(62) [S' t_j [S t_j [S [e _$_i$ kite-iru] fuku$_i$-ga yogorete-iru]]] sinsi$_j$
wear-be clothes-Nom dirty-be gentleman

Sakai (1994) presents three pieces of evidence that show that the major subject position is indeed located in the main clause. First, it is possible to insert adverbial expressions that modify the main predicate inside what appears to be a relative clause:

(63) a. Sono gakusei-ga **saisyoni** tukatte-ita computer-ga kowarete-
that student-Nom first use-be.Pst computer-Nom break-
simat-ta.[16]
Perf-Pst
The computer that that student was using broke first.

b. Sono sinsi-ga **fusigina kotoni** kite-iru youfuku-ga yogorete-i-ta.
that gentleman-Nom strangely wear-be.Pre clothes-ga soiled-be-Pst
Strangely, the clothes that the gentleman was wearing were dirty.

In (63a), *saisyoni* "first" can be interpreted as modifying the main verb (viz. "the student was the first that the computer he was using broke")[17]. This means that it is located in the main clause and so is *sono gakusei-ga* "that student". In (63b), *fusigina kotoni* "strangely" is interpreted as modifying the main verb *yogorete-ita* "was dirty". If so, *sono sinsi-ga* "that gentleman" must also be located in the main clause. Thus, *sono gakusei-ga* "that student" and *sono sinsi-ga* "that gentleman" are not embedded subjects, but major subjects.

---

[16] The original example in Sakai (1994) is the following:
(i) Mary-ga saishoni tsukatte-ita computer-ga kowarete-shimat-ta. (Sakai 1994:183)
I have changed the major subject to *sono gakusei* "that student", because relativizing Sakai's example would generate an appositive relative clause.

[17] The unmarked reading is "the computer that the student was using first broke," where *saisyoni* "first" modifies the embedded verb.

Second, when a quantified NP is inside a relative clause, it cannot take scope over the matrix clause and there is only one reading, as shown in (64a). However, in (64b), which apparently contains the same relative clause, the quantified NP allows for a wide scope reading and the sentence is ambiguous:

(64) a. Kinoo-made [**daremo**-ga tukatte-ita] computer-ga
yesterday-until everyone-Nom use-be.Pst computer-Nom
kowarete-simatta.
break-Perf.Pst
The computer which everyone was using until yesterday has broken.

b. **Daremo**-ga tukatte-ita computer-ga kowarete-simatta.
everyone-Nom use-be.Pst computer-Nom break-Perf.Pst
=The computer which everyone was using has broken.
=For each person, the computer that he was using has broken.

In order for the wide scope reading to be possible in (64b), *daremo-ga* "everyone" must be located in the main clause as the major subject[18].

Third, major subjects can license anaphors in the main clause:

(65) a. John$_i$-ga okut-ta nimotu-ga **zibun$_i$**-no ie-ni todoi-ta (koto).
John-Nom send-Pst parcel-Nom oneself-Gen house-Loc reach-Pst fact
(the fact that) the parcel that John sent reached his house.

b. John to Mary$_i$-ga okut-ta nimotu-ga **otagai$_i$**-no ie-ni
John and Mary-Nom send-Pst parcel-Nom each other-Gen house-Loc
todoi-ta (koto).
reach-Pst fact
(the fact that) the parcels that John and Mary sent reached each other's house.

In addition, Ishizuka (2009) claims that the gap of the outer head noun in a double relative construction is not a trace, but a small *pro*. Observe the following contrast

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[18] The major subject position cannot be created if there is already another element adjoined to S. Thus, (64a) does not have a major subject position due to the presence of *kinoo-made* "until yesterday".

from Kuroda (1965):

(66) a. John$_i$-ga [Mary-ga *pro*$_{*i/j}$ aisite-iru to] omotte-iru.
John-Nom Mary-Nom love-be Comp think-be
John thinks that Mary loves (pro).

b. John$_i$-ga [Mary-ga *pro*$_{i/j}$ aisite-**kurete**-iru to] omotte-iru.
John-Nom Mary-Nom love-give-be Comp think-be
John thinks that Mary (is doing him the favor of) loving (pro).

In (66a), the object *pro* is interpreted as referring to someone in the context and cannot be interpreted as referring to the main subject *John*. The interpretation changes when the auxiliary verb *kureru* ("give" or "do something as a favor") is attached, as in (66b): the embedded object can refer to the matrix subject. The same is observed in double relatives, as shown in (67) (example repeated from (29)):

(67) a. *[[_$_i$ _$_j$ kawaigatte-i-ta] kodomo$_i$-ga sinde-simat-ta] inu$_j$-ga
adore-be-Pst child-Nom die-Perf-Pst dog-Nom
maiban naite-iru.
every.evening cry-be
The dog that the child who adored (him) died is crying every evening.

b. [[_$_i$ _$_j$ kawaigatte-kure-ta] kodomo$_i$-ga sinde-simat-ta] inu$_j$-ga
adore-give-Pst child-Nom die-Perf-Pst dog-Nom
maiban naite-iru.
every.evening cry-be
The dog that the child who (did the favor of) adoring (it) died is crying every evening.

Recall that (67a) was ruled out for pragmatic reasons. It becomes well-formed when *kureru* is added, as shown in (67b).

In sum, the double relative clause has the following structure where the outer gap is a *pro*:

(68) [$_{S'}$ [$_S$ [$_{\text{major subject}}$ t_i] [$_S$[*pro*$_j$ t_i ...] NP$_i$ ...]] NP$_j$

Ishizuka associates these properties with "possessor raising." Possessor raising is in general only possible from internal arguments (Baker 1988, Massan 1985). She claims that the types of predicates mentioned above provide the proper environment for possessor raising to occur. It is interesting to note that these predicates can also be considered as "stative" predicates in Kuroda's (1986a) sense. Thus, if Ishizuka's proposal is on the right track, double relative clauses are allowed only when possessor raising can occur and the major subject position is available. In particular, the double relative construction in (10) is derived as follows:

(69) [[$_S$ ~~sinsi$_j$-ga~~ [$_S$[$_{DP}$ ~~sinsi$_j$-no~~ [$_{DP}$[*pro*$_j$ _$_i$ kite-iru] fuku$_i$]-ga yogorete-iru]] sinsi$_j$
wear-be clothes-Nom dirty-be gentleman

The inner relative is derived by A-bar movement of the head noun, *fuku* "clothes". *Sinsi* "gentleman" is merged to the inner relative clause [$_{DP}$[*pro*$_j$ _$_i$ kite-iru] fuku$_i$]) in a genitive configuration. Next, the outer predicate [yogorete-iru] is merged with the possessor DP. Since this is a *be*-type predicate, possessor raising applies and moves *sinsi* to the major subject position. Finally, relativization extracts *sinsi* and forms the outer relative clause. *Sinsi* is understood as the subject of *kite-iru "is wearing"*, but the subject position of *kite-iru* is occupied by a small *pro* and there is no violation of Subjacency.

3.4 The raising analysis and the status of the fronted clause

Much research on Japanese relative clauses in the past decade has been based on Kayne's (1994) analysis of head-final relative clauses (cf. Murasugi 2000a,b, Hoshi 2004, among others). Kayne proposes that relative clauses should universally be treated as D-CP structures. The idea that CP is the complement of the determiner originally comes from Smith's (1964) claim that the determiner is what determines what kind of relative clause is acceptable. Observe the following contrast:

(70) a. Restrictive/appositive
The book(,) which is about linguistics, is interesting.

b. Restrictive/*appositive
Any book (*,) which is about linguistics, is interesting.

In (70a), the sentence may be interpreted as either restrictive or appositive, while in (70b), it can only be interpreted as restrictive. The only difference between the two sentences is the determiner.

Another piece of evidence for the D-CP structure comes from examples where a constituent that cannot be the complement of D can become one when it is inside a relative clause (Kayne 1994:86, the examples are slightly modified for expository purposes):

(71) a. ?*I found [$_{DP}$ the [pictures of John's]].
b. I found [$_{DP}$ the [pictures of John's that you lent me].

According to Kayne (1994), (71a) is ungrammatical because *the* cannot take another DP as its complement. The well-formedness of (71b) on the other hand suggests that *the* and *pictures of John's* do not form a constituent, for otherwise, it should be ruled out like (71a). Rather, *pictures of John's that you lent me* forms a constituent, namely, a CP.

With regard to the derivation of the head noun, Kayne assumes the raising analysis (Vergnaud 1974), according to which the head noun is generated inside the embedded clause and promoted to Spec-CP:

(72) [$_{DP}$ D [$_{CP}$ NP$_i$ [C [$_{IP}$ …t$_i$…]]]]

This movement is triggered by the need to satisfy the selectional requirement of D. D selects for a nominal element as its complement and the NP in Spec-CP provides the necessary nominal feature.[19]

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[19] Bianchi (2000), in reply to Borsley's (1997) remark that the trace inside the embedded clause exhibits properties of a DP-trace (it occupies a Case position, it can license parasitic gaps, it can control a PRO subject, etc.), suggests that what moves to Spec-CP is a DP with an empty head.

As we have seen in 3.3.2, the raising analysis is supported by the presence of reconstruction effects. It is also supported by the distribution of idiom chunks such as "make headway" (Vergnaud 1974). A part of an idiom that normally cannot occur as the complement of D, as in (73b), can occur as the head of a relative clause, as in (73a):

(73) a. The headway that John made was impressive.
b. We made (*the) headway.

This means that *headway* in (73a) is not generated as the complement of D, and furthermore, that the complement of D here is not an NP but a CP.

As we mentioned briefly in 3.2.3, Kayne (1994) proposes that head-final relative clauses are derived in the same way as head-initial ones, but they include an extra step: fronting of the embedded IP:

(74) $[_{DP}[_{IP} \ldots t_i \ldots]_j [D[_{CP} NP_i [C\ t_j\ ]]]]$

Evidence for the movement of the IP is provided by Amharic (Gragg 1972), which has head-final relative clauses and overt determiners. In this language, relative clauses surface in the order RC-D-NP (RC=relative clause). For this order to occur, the head NP must be promoted to Spec-CP, and subsequently a smaller projection, namely, IP must be fronted to Spec-DP.

However, there is evidence to believe that this is at least not the case in Japanese. Recall that relative clauses in Japanese can include the focus particle *-dake* (cf. (4), (5)):

(75) [*pro* sio-de t_i azituke-ta **dake** no] suteeki$_i$
salt-Obl flavor-Pst only Pt steak
steak that is only flavored with salt.

In the above example, *dake* focalizes the embedded verb *azituke-ta* "flavored" and the particle *no* must be inserted at the clause-periphery. *Dake* can also focalize *sio*

"salt", but in that case, *no* is not necessary:

(76) [*pro* sio-**dake**-de t_i azituke-ta (*no)] suteeki$_i$
salt-only-Obl flavor-Pst steak
steak that is flavored only with salt

Thus, *no* is not dependent on the presence of the focus particle, but rather on the position that the latter occupies. As we will see in detail in the next chapter, *no* in (75) and the focus particle are best analyzed as elements of the CP-system (Rizzi 1997). A similar example is the following:

(77) Konkai-no-wa [zyuu-nen-ni iti-do _ okiru-**kadooka**-no]
this.time-Pt-Top ten-years-Obl one-time happen-whether-Pt
daizisin dat-ta.
big-earthquake be-Pst
This time's was a big earthquake that whether happens once in ten years.

Here, the fronted clause includes an interrogative marker *-kadooka* "whether". Evidently, the embedded clause that is fronted in these examples is a CP projection.

It has been observed that verbs of prenominal relative clauses are typically non-finite or participial and have reduced tense possibilities as compared to finite verbs (Keenan 1985:160). Kayne (1994) speculates that this is due to the fact that finiteness requires incorporation of I^0 to C^0 in the overt syntax and that the latter cannot be obtained if IP is split off from C^0. As Keenan himself notes, Japanese is exceptional in the sense that embedded predicates express full finiteness. So, to the extent that Japanese embedded predicates fully express finiteness, the fronted IP cannot have been separated from C^0, that is, it must include the CP projection.

Furthermore, the movement of IP is dubious on theoretical grounds. Rizzi & Shlonsky (2007) note that movement of the IP stranding C is in general unprecedented, and moreover precluded, if IP does not constitute a Phase in the sense of Chomsky (2001),

and non-phase categories are not subject to long-distance movement[20].

Finally, as is well-known, relative clauses can be extraposed. Consider the following examples from Borsley (1997):

(78) a. A man came into the bar who we knew in school.
b. I saw a man on Monday who looked like Chomsky.

As the name "extraposed" suggests, extraposition has traditionally been analyzed as rightward movement of the embedded clause:

(79) a. A man t_i came into the bar [who we knew in school]$_i$.
b. I saw a man t_i on Monday [who looked like Chomsky]$_i$.

According to Kayne (1994), extraposed relative clauses are the result of leftward movement of the head noun stranding the embedded clause behind:

(80) a. A man$_i$ came into the bar [t_i who we knew in school].
b. I saw a man$_i$ on Monday [t_i who looked like Chomsky].

However, as Borsley (1997) points out, extraposition is always to the sentence-final position and if Kayne's analysis were true, we would have to assume that the constituents in between have also been fronted to secure the sentence-final position of the stranded embedded clause:

(81) a. A man$_i$ came$_j$ [into the bar]$_k$ [t_i who we knew in school] t_j t_k.
b. I saw a man$_i$ [on Monday]$_j$ [t_i who looked like Chomsky] t_j.

But there are no positions available for these constituents nor reasons for them to move.

Thus, it seems that "extraposed" relative clauses are best treated as rightward movement. If so, the extraposed element must be a constituent, but in Kayne's (1994)

[20] I am thankful to Luigi Rizzi for pointed this out to me.

analysis, the C^0 element and the embedded IP do not form one. The obvious question is how we could assure the independence of CP from the head noun, while still accounting for the fact that CP is the complement of D. I will leave this for future research.

3.5 Summary

In this chapter, we have first looked at the types of Japanese sentential modifiers as well as at their properties and we have then focused our attention to the syntax of restrictive relative clauses. First, we considered the base-generation approach and two pieces of evidence that supported such an approach, namely, lack of Subjacency effects and absence of reconstruction effects. Subsequently, we looked at the pieces of evidence provided by recent analyses and concluded that relative clauses in Japanese are not base-generated but involve A-bar movement. Finally, we have pointed out that Kayne's (1994) analysis on head-final relatives does not hold for Japanese because the fronted clause is a CP, not an IP. Extraposed relative clauses also suggest that the embedded clause is independent from the head noun. However, we will leave this latter issue for future research.

Chapter 4 The Adnominal Form and the Particle 'no'

As we have seen in the previous chapters, Japanese adjectival modifiers and sentential modifiers require that the embedded predicate be in the "adnominal form" (*rentai-kei*). Evidently, the latter form plays a central role in clausal modifiers. We have also seen that the particle *no* must also be present in some cases. In this chapter, we will focus on these two facts. We will discuss the functions that the adnominal form serves, how they have changed diachronically, the role of the adnominal form in the syntactic structure, and the complementary role that the particle *no* plays in determined contexts.

4.1 The adnominal form

4.1.1 The adnominal form in Classical Japanese

We will start with an overview of the adnominal form in Classical Japanese in order to describe the funtions it served. One of its core functions was, and still is in Modern Japanese, to signal that the clause in which it is contained serves as a modifier to the adjacent noun:

(1) Adjectival clauses

a. [*pro* hadazamu-**ki**] yuugure
chilly-Adn dusk
chilly dusk

(Genzi Monogatari, 11th century)

b. [*pro* utukusikari-**turu**] koto
beautiful.Cnt-Perf.Adn thing
(that she) was beautiful

(Taketori Monogatari, 10th century)

(2) Relative clauses

a. [onoko mo e_i su-**naru**] nikki$_i$ to iu mono-o,
men too do-so-say.Adn diary Comp say.Adn thing-Acc
thing that is called diary that I hear that men also write

(Tosanikki, 10th century)

b. [e_i hiru hoyu-**ru]** inu$_i$
daytime bark-Adn dog
a dog that barks during the day

(Makuranosoosi, 11th century)

As the glosses indicate, *-ki* in (1a) and *-turu* in (1b) are adnominal forms. The conclusive forms would be *-si* and *-tu,* respectively. Likewise, *-naru* in (2a) and *-ru* in (2b) are adnominal forms and the conclusive forms would be *-nari* and *-yu,* respectively. The adnominal form in these examples is simply a "marker of modification". Its presence does not affect the relationship between the embedded predicate and its argument(s) or the semantic contribution of the embedded clause to the head noun.

The following examples show that the head noun of adjectival clauses and relative clauses can be phonologically null. In each of them, the null head has a pronominal interpretation. Let us assume that a null pronoun *pro* occupies the head position:

(3) Adjectival clauses

a. [*pro* ito kiyorakani koobasi-**ki**] *pro*-o ki-tamae-ri.
very purely aromatic-Adn -Acc wear-Hon-Perf
(he) wore (clothes that are) very purely aromatic.

(Genzi Monogatari, 11th century)

b. sekai-no onoko, [*pro* ate-**naru**] *pro*-mo [*pro* iyasi-**ki**] *pro*-mo,
world-Gen men noble-Ass.Adn -also humble-Adn -also
men of the world, noble (men) and humble (men)

(Taketori Monogatari, 10th century)

(4) Relative clauses

a. [e_i kaku ar-**u**] *pro*$_i$-o mi-tutu kogi yuku manimani,
thus be-Adn -Acc look-as row go along
As we row along, looking at (the scenery) that is thus there,

(Tosanikki, 10th century)

b. ... [e_i sugurete tokimeki tama-**u]** *pro*$_i$ ari-keri.
exceptionally favor receive-Adn be-Perf
... there was (a person) that exceptionally received the favor (of the emperor).

(Genzi Monogatari, 11th century)

Nominal complements are also expressed with the embedded predicate in the adnominal form:

(5) a. ... [[kogane ar-u] take-o mituk-**uru**] koto kasanari-nu.
gold be-Adn bamboo-Acc find-Adn matter repeat-Perf
... that (he) finds bamboo that has gold was repeated.
(=he repeatedly found bamboo that had gold.)

(Taketori Monogatari, 10th century)

b. Too to kono kuni to-wa [koto koto-**naru**] mono nar-e-do,
Tang and this country and-Top language differ-Adn thing be-Cnd-Conj
Tang and this country, although it is that the language is different,
(=although the language is different between Tang and this country,)

(Tosanikki, 10th century)

Nominal complements can also lack an overt head noun:

(6) a. [tukihi-no yuk-**u**] -o sae nagek-u onoko
days-Nom pass-Adn-Acc even lament-Adn man
man that even laments (the fact) that days pass by

(Makuranosoosi, 11th century)

b. ... [onago-no na-**ki]** -nomi-zo, kanasibi koiuru.
girl-Gen absent-Adn-just-Emp grieve.Cnt miss.Adn
...just (the fact) that the girl is absent, (I) grieve and miss (her).

(Tosanikki, 10th century)

In (6a) and (6b), the embedded clause is interpreted as an argument, that is, as a clausal argument. They cannot be analyzed as having a null pronominal head, because

a pronoun may need a referent, but it does not need a complement. Here, the adnominal form is not a marker of modification because there is no head noun. Rather, it nominalizes the clause in which it is contained. The fact that in (6a), the accusative Case marker *-o* attaches directly to the clause supports the hypothesis that the embedded clause is a nominal element. In traditional grammar, such nominalized clauses are called *zyuntaiku* "quasi-nominal phrase".

In (7), we have a gapless relative:

(7) kuruma-o yarite matuni, [*pro* **kuru**] oto sure-ba,
carrige-Acc send wait, come-Adn sound do-Cnd
(I) send a carriage and wait, and when (there is) sound that (the carriage) comes,

(Makuranosoosi, 11th century)

I have not been able to find any gapless relatives without an overt head. Perhaps, this has to do with their complementary nature. That is, although the head of gapless relatives has certain semantic content, it needs to be complemented by the embedded clause. The contradiction is that although the head can be substituted by a pronoun, the pronoun cannot be complemented by the embedded clause. If this is the case, there should be no gapless relatives that lack an overt head.

In other constructions that involve nominalized clauses, such as the cleft construction, infinitival clauses, and head-internal relative clauses[1], the embedded predicate is also in the adnominal form:

(8) Cleft construction:
[kore to te, sasi-ide-**taru]**-ga ari-turu fumi nareba
this say-that, hold-out-Perf.Adn-Nom be-Perf.Adn letter be-Cond
what (she) holds out, saying "this", is the letter of just a while ago

(Makuranosoosi, 11th century)

[1] See Kuroda (1974) for a detailed discussion on head-internal relative clauses ("pivot-independent relative clauses" in his term).

(9) Infinitival clause:

[PRO tsuki-no kao mi-**ru**] -wa imu koto
moon-Gen face see-Adn Top avoid.Adn thing
To look at the face of the moon is something (that should be) avoid(ed)

(Taketori Monogatari, 10th century)

(10) Head-internal relative clause:

[ono-ga ito medetasi to mi-tatema-**turu]**-o-ba tazune-omoosa-de
I-Nom very splendid Comp consider-Hon-Perf-Acc-Emp visit-think-Sup
(You) did not think to visit me, (who considers you as very splendid)

(Genzi Monogatari, 11th century)

Thus, the nominalizing function is another central function of the adnominal form. In addition to the two central functions, the adnominal form may also appear at the end of the sentence instead of the conclusive form. It adds emphasis to the sentence:

(11) ... sono yama-o fuji-no yama to wa nazuke-**keru**.
that mountain-Acc Fuji-Gen Mt that Emp[2] name-Pst.Adn
... named that mountain Mt. of Fuji.

(Taketori Monogatari, 10th century)

(12) ... tatimatini oozi-o ide-te zinsin-ni tura-**naru**.
soon royal-family-Loc leave servant-Obl join-Perf.Adn
... soon he left the royal family and joined as a servant.

(Heike monogatari, 11th century)

Finally, the adnominal form in Classical Japanese participates in selectional properties. First, some conjunctive particles (*ga, ni, o, monono, monoo, monokara, monoyue*) select for the adnominal form:

(13) ... mi-e-za-**naru**-**o**, kokoro ar-u mono-wa ...
see-can-Neg-Ass.Adn-Conj[3], heart have-Adn person-Top
... although (they) do not appear (lit. not possible to see), the persons who have a heart ...

(Tosanikki, 10th century)

---

[2] *Emp* stands for "emphatic particle".

[3] *Ass* stands for "assertive": *-nari* is a modal suffix that expresses assertion. *Conj* stands for "conjunctive particle".

(14) ... kimi-ni awa-mu to ko-**si** **monoo,** ko-si kai mo
you-Dat meet-Vol that come-Perf.Adn despite come-Perf.Adn merit Emp
naku wakare-nuru-kana
no part-Perf.Adn-Exc[4]
...despite that I came to see you, I have parted without the merit of coming.

(Tosanikki, 10th century)

The latter four conjunctive particles, *monono, monoo, monokara,* and *monoyue,* are morphologically composed of the noun *mono* "thing" and something else (*no, o, kara, yue*)[5]. So, despite the fact that they are categorized as conjunctive particles, the selectional requirement may be due to their nominal origin.

Second, certain sentence-final particles (*kana, ka, so,* etc.) select for the adnominal form. Incidently, (14) above includes an example of the excalmatory particle *kana*. Here is another example, with the particle of prohibition (Proh) -*so*:

(15) Tuki na mi-**tamai-so**.
moon-Proh look-Hon.Adn-Proh
Please do not look at the moon.

(Taketori Monogatari, 10th century)

Third, the adnominal form participates in the so-called *kakari-musubi* construction, where certain particles (Q-particles *ya, ka* and emphatic particles *zo, namu, koso*) determine the form of the predicate, although they are not attached to the latter. In particular, *ya, ka, zo,* and *namu* require the adnominal form and *koso* requires the conditional form. For example, in (16), which is the more complete text of (6b), *koiuru* "miss" is in the adnominal form instead of the conclusive form, because it is in a *kakari-musubi* relation with *zo*:

[4] *Dat* stands for "dative Case", *Vol* stands for "volitive", *Exc* stands for "exclamatory".

[5] *No, o* and *kara* are particles and *yue* is a noun meaning "reason".

(16) Kyoo-e kaeru-ni [onnago-no naki**]**-nomi-**zo**, kanasibi **koiuru**.
Kyoto-Loc return.Adn-Dat girl-Gen absent.Adn-just-PT grieve.Cnt miss.Adn
On returning to Kyoto, just (the fact) that the girl is absent, (I) grieve and miss (her).

(Tosanikki, 10th century)

In sum, the adnominal form in Classical Japanese has two central functions: marker of modification and nominalizer of the clause. In addition, it can mark the end of the sentence expressing emphasis. It also participates in the selectional requirements of certain particles (i.e. conjunctive particles, sentence-final particles, and the particles of the *kakari-musubi* construction).

4.1.2 The adnominal form in Modern Japanese

The adnominal form went through a phonological merger with the conclusive form during the 13th century (cf. Kinsui 1995). Hence, in Modern Japanese there is no overt distinction between the two forms, except for in the copula. Apparently, other changes have also taken place. Let us examine how its functions in Classical Japanese are conserved in Modern Japanese.

Adjectival clauses, relative clauses, nominal complements, and gapless relatives in Modern Japanese all require that the embedded predicate be in the adnominal form:

(17) a. Adjectival clause

Watasi-wa [*pro* ooki-**i**] kuruma-o mi-ta.
I-Top big-Adn car-Acc see-Pst
I saw a big car.

b. (Restrictive) relative clause

[John-ga t_i happyoosi-**ta**] ronbun$_i$
John-Nom present-Pst.Adn paper
the paper that John presented

c. Nominal complement

[John-ga ronbun-o happyoosi-**ta**] uwasa
John-Nom paper-Acc present-Pst.Adn rumor
the rumor that John presented a paper

d. Gapless relative

[doa-ga simar-**u**] oto
door-Nom close-Adn sound
sound that door closes

Since other forms (e.g. the conclusive form) are not allowed in this position, we may say that in Modern Japanese the adnominal form still serves as the marker of modification.

Adjectival clauses and relative clauses may also be headed by a null pronoun. However, in this case, the particle *no* must be inserted:

(18) a. Adjectival clause

Watasi-wa [*pro* ooki-i **no**] *pro*-o mi-ta.
I-Top big-Adn Pt -Acc see-Pst
I saw a big one (=car).

b. (Restrictive) relative clause

Kanozyo-wa [John-ga t_i happyoosi-ta **no**] *pro*$_i$-o motteki-ta.
she-Top John-Nom present-Pst.Adn Pt -Acc bring-Pst
She brought the one (=paper) that John presented.

For ease of exposition, let us assume for now that *no* is inside the embedded clause. We will discuss the nature of *no* in 4.3. The need for *no* in these examples suggests that although the adnominal form in Modern Japanese marks modification, it does not suffice to do so when the head is phonologically null and *no* serves a complementary role in this respect.

In the previous section, we saw that when nominal complements lack an overt head in Classical Japanese, the adnominal form serves to nominalize the clause. Nominal complements in Modern Japanese may also lack an overt head, but *no* must also be present. In (19a), we have a nominal complement headed by the formal noun *koto*

"matter". (19b) has the same interpretation as (19a), but there is no overt head and the particle *no* must be present:

(19) a. Kanozyo-wa [John-ga ronbun-o happyoosi-ta] koto-o
she-Top John-Nom paper-Acc present-Pst.Adn matter-Acc
sitteiru.
know
She knows the matter that John presented the paper.

b. Kanozyo-wa [John-ga ronbun-o happyoosi-ta **no**] -o sitteiru
she-Top John-Nom paper-Acc present-Pst.Adn Pt -Acc know.
She knows that John presented the paper.

Other constructions that involve nominalized clauses are also expressed in Modern Japanese with the adnominal form and the particle *no*:

(20) a. Cleft constructions

[John-ga taipusi-ta **no**]-wa ronbun da.
John-Nom type-Pst.Adn Pt -Top paper be
What John typed is a paper.

b. Infinitival clauses

[PRO Zenzen undoo-o si-na-i **no**]-wa kenkoo-ni yoku-nai.
Not-at-all excercise-Acc do-Neg-Adn Pt -Top health-Obl good-not
To not do any exercise is not good for the health

c. Head-Internal Relative Clauses[6]

John-wa [Mary-ga pizza-o tukut-ta **no**]-o yorokonde tabe-ta.
John-Top Mary-Nom pizza-Acc make-Pst.Adn Pt -Acc delightedly eat-Pst
John ate delightedly the pizza that Mary made.

Thus, regarding the nominalizing function of the adnominal form in Modern Japanese, we may say that it partially[7] conserves this function and requires the particle *no* to fulfill it.

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[6] See Kuroda (1974, 1975/76, 1976/77) for the view that *no* is a nominalizing complementizer and head-internal relative clauses do not have external heads. See Kitagawa (2005) and the references within for the contrary view that they are headed by an empty category, as well as analyses on the different types of head-internal relative clauses.

[7] The fact that the adnominal form is required despite the presence of *no* suggests that the form serves some role "partially".

Turning to the remaining functions, first, the adnominal form in Modern Japanese does not substitute the conclusive form to add emphasis. As for the selectional properties, the conjunctive particles *monono, monoo* and *monoyue* are still used in Modern Japanese and select for the adnominal form. *Noni* and *node* also select for this form:

(21) Kono heya-wa sizuka-na **noni**, kanozyo-wa fuman-da.
this room-Top quiet-Adn although she-Top unsatisfied-be
Although this room is quiet, she is unsatisfied.

(22) Kono heya-wa sizuka-na **node**, yoku nemure-ru.
this room-Top quiet-Adn so well sleep-can
This room is quiet, so I can sleep well.

However, as with the conjunctive particles that are composed of *mono-*, *noni* and *node* can also be analyzed as consisting of *no* and another particle, *ni* or *de*. As we have observed in the examples that lack overt heads, *no* has a somewhat nominal property, and the selectional requirement may be related to this property. Apart from these particles, all the conjunctive particles and sentence-final particles in Modern Japanese select for the conclusive form. The *kakari-musubi* construction does not exist in Modern Japanese. On the other hand, there are some particles, such as the focus particle *dake*, suppositional *-hazu*, and emphatic *-bakari*, that select for the adnominal form:

(23) a. Focus *-dake*

Kono atari-wa sizuka-na **dake** de nanimo nai.
this area-Top quiet-Adn only be nothing be.Neg
This area is only quiet and there is nothing.

b. Suppositional *hazu*

Sono heya-wa totemo sizuka-na **hazu** da.
that room-Top very quiet-Adn supposed be
That room is supposed to be very quiet.

c. Emphatic *bakari*

Kono atari-wa sizuka-na **bakari** de nanimo nai.
this area-Top quiet-Adn just be nothing be.Neg
This area is just quiet and there is nothing.

In sum, the adnominal form in Modern Japanese continues to be a marker of modification when the head noun is overt. When it is phonologically null, it requires the presence of the particle *no* to fulfill this function. Likewise, it conserves the nominalizing function, but only partially, and requires the presence of *no* to fulfill it. On the other hand, the adnominal form in Modern Japanese cannot mark the end of the sentence adding emphasis and the selection by certain particles have also changed, perhaps because of the diachronic changes in the particles per se. Overall, the functions of the adnominal form in Modern Japanese have been reduced from Classical Japanese.

4.2 Syntactic analyses of the adnominal form

Japanese is an agglutinative language and as we have seen, its verbal morphology is affixal. If we take the traditional view that the stem is inserted in V and the affixes are inserted in their corresponding positions (e.g. negative affix in Neg, past tense affix in T, etc.), a verbal "complex" such as the one in (24) is derived by syntactic movement (viz. verb incorporation (Baker 1988)) where the stem moves successive cyclically through the structure, picking up the corresponding suffixes at each cycle.

(24) tabe-na-kat-ta
eat -Neg-Cnt-Pst
did not eat

On the other hand, affixes cannot be left unbound. In order to assure this, a filter, namely, the Stray Affix Filter (Lasnik, 1981; Baker, 1988) has been proposed:

(25) Stray Affix Filter (Lasnik, 1981; 162)

A morphologically realized affix must be a syntactic dependent of a morphologically realized category at surface structure.

Kaplan & Whitman (1995) claim that Modern Japanese lacks the adnominal form and instead, has a null complementizer in C^0 that is affixal. They claim that the embedded predicate of sentential modifiers moves into C^0 in order to satisfy the Stray Affix

Filter.

Their claim is based on the parallelism between Classical Japanese and Korean. The latter, like Japanese, is a SOV language and lacks relative complementizers and relative pronouns. However, it has an "adnominal suffix" *-n*, which is found at the final position of the embedded predicate:

(26) [$_{NP}$[ecey *pro* manna-ass-te-**n**] salam
yesterday meet-Pst-Ret-Adn person
Person that (I) met yesterday.

In (26), the embedded verb is composed of the root *manna*, the past tense suffix *-ass*, the retrospective suffix (Ret) *-te*, and the adnominal suffix *-n*. The adnominal suffix follows all other suffixes such as tense, aspect, and mood[8]. It has been proposed that *-n* is an affixal complementizer inserted in C^0 (Yoon 1990). Thus, the embedded verb moves successive cyclically from V to C, picking up the tense affix, the modal affix, and finally, the adnominal affix.

According to Kaplan & Whitman (1995), the adnominal form in Classical Japanese is the equivalent of the Korean affix *-n* for its affixal nature and for the fact that it must appear in the absolute final position of the verbal complex. Since *-n* is assumed to be a complementizer, they claim that relative clauses in Classical Japanese are CP structures, and consequently, those in Modern Japanese are as well. In the previous chapter, we independently reached the conclusion that Japanese relative clauses are CP structures.

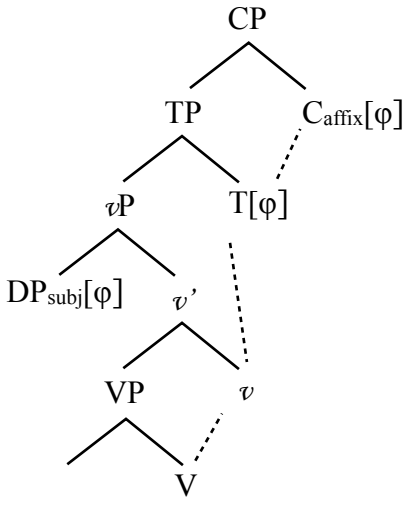
However, the assumption of a null affixal complementizer that occupies C^0 has two problems. First, by definition, the Stray Affix Filter applies to "morphologically realized affixes". Since what is assumed is phonologically null, it would not oblige the verb to move to C. Second, Modern Japanese retains the adnominal form, as we have evidenced in Chapter 2 and 3. Hence, if Kaplan & Whitman's analysis were

[8] If there is no intervening affix between the tense suffix and the adnominal suffix, the two suffixes are incorporated: future *-l*, present *-n(un)*, past *–(u)n*.

correct, the adnominal form would occupy C and the null affixal complementizer would be redundant.

Hiraiwa (2001) puts forth an alternative analysis under a minimalist approach. The verbal complex is inserted into the syntactic structure as a whole and its features are checked against the corresponding functional heads through the operation AGREE (Chomsky 2000, 2001). According to this mechanism, the φ–features of the probe are checked against those of the goal. As they are checked, the features are copied onto the goal. The successive application of AGREE forms an amalgamation of features. In the case in question, the φ–features of the embedded verb in V are checked against those on *v*, and as they are checked, an amalgamated feature complex *v*-V is formed. In the next phase, the φ–features on *v*-V are checked against those on T, the features are copied, and the feature complex is augmented to T-*v*-V. Finally, the φ–features of T-*v*-V are checked against those on C, and an amalgamated feature C-T-*v*-V is formed. Hiraiwa (2001) claims that the adnominal form is the morphological realization of this final feature. The feature-checking process is schematized in (27):

(27)



(Hiraiwa 2001:85)

The claim that the verb ends up in C is supported by several pieces of evidence (cf. Hiraiwa 2001). First, as we have seen, the adnominal form in Classical Japanese

shares the same distribution and the same position as the adnominal affix *–n* in Korean, which is assumed to be an affixal complementizer. Second, in languages that also have the adnominal form, the embedded verb must always appear at the clause-periphery, even if the language in question has a rigid word order. Kihung'an, a Bantu language, provides an example (Givón 1979; via Kaplan & Whitman 1995:fn.4). The basic word order in Kihung'an is SVO, as shown in (28a). Relative clauses are head-initial and when they are formed, the verb that carries the adnominal suffix must be fronted to the sentence-initial position, as the object relative in (28b) shows:

(28) a. Kipes ka-swiimin kit zoon.
Kipes he-bought chair yesterday
Kipes bought a chair yesterday.

b. kit [ki-a-swiimin Kipes zoon]
chair Rel-he-bought Kipes yesterday
the chair that Kipes bought yesterday

(Givón 1979; due to Takizala 1972)

Hiraiwa (2001:fn.4) leaves open the question of whether the formation of the adnominal form involves actual syntactic head movement or rather just the checking of features, but concludes, following Kaplan & Whitman (1995) and Kinsui (1995), that Modern Japanese has a null affix in C^0 and that its affixal nature requires feature checking with the amalgamated feature T-*v*-V.

Again, however, the Stray Affix Filter only applies to morphologically realized affixes. Moreover, under the assumption that the verb is inserted as a whole, with all its affixes, there is no unbound affix in the first place. Secondly, AGREE and affixation are not two sides of the same coin. Since AGREE can check features without there being overt head movement, it does not ensure well-formedness for the Stray Affix Filter.

In sum, various pieces of evidence suggest that the adnominal form in Modern Japanese is associated with the C-system. However, the assumption that there is a null affix in C^0 that triggers the movement of the verb or checking of features is dubious.

We will return to this question in 4.4.

4.3 The nature of the particle *no*

Let us next consider the nature of the particle *no* that has appeared many times above. Traditionally, four types of *no* have been distinguished[9]:

(29) a. Genitive Case marker

Taro **no** hon
Taro book
book of Taro

b. Pronoun

Watasi-wa ooki-i **no**-o mi-ta.
I-Top big-Adn -Acc see-Pst
I saw a big one (=car).

c. Nominalizer

Kanozyo-wa [John-ga ronbun-o happyoosi-ta] **no**-o sitteiru.
she-Top John-Nom paper-Acc present-Pst.Adn -Acc know
She knows that John presented the paper.

d. Complementizer

[John-ga _ taipusi-ta] **no**-wa ronbun da.
John-Nom type-Pst.Adn -Top paper be
What John typed is a paper.

Regarding *no* as the genitive Case marker, (29a), there is convincing evidence that the latter is different from the rest. First, there are dialects in Japanese such as the Toyama dialect (Murasugi 1991) or the Kochi dialect (Takeda 1999) that use *no* for the genitive construction and a different particle, *ga*, for the rest. Second, during the course of first language acquisition, children of the Toyama dialect overgenerate *ga* in adjectival clauses and relative clauses with overt heads, but they do not make mistakes with the genitive *no* (Murasugi 1991). Third, the genitive construction has not gone through any diachronic change from Classical Japanese, whereas the

[9] In addition, there is a sentence-final particle *no* with different functions from those mentioned here.

presence of *no* in the rest of the contexts (i.e. (29b), (29c), (29d)) is something new in Modern Japanese[10].

Regarding *no* as a pronoun, (29b), recall that in (18) (repeated here as (30)), we analyzed the adjectival clause and the relative clause without overt head nouns as headed by small *pro*'s, because the heads had pronominal interpretations:

(30) a. Adjectival clause

Watasi-wa [*pro* ooki-i **no**] *pro*-o mi-ta.
I-Top big-Adn Pt -Acc see-Pst
I saw a big one (=car).

b. (Restrictive) relative clause

Kanozyo-wa [John-ga t_i happyoosi-ta **no**] *pro*$_i$-o motteki-ta.
she-Top John-Nom present-Pst.Adn Pt -Acc bring-Pst
She brought the one (=paper) that John presented.

According to advocates of *no* as a pronoun, *no* itself is the head in these cases. Thus, the examples in (30) are analyzed as follows:

(31) a. Watasi-wa [*pro* ooki-i] **no**-o mi-ta.
I-Top big-Adn -Acc see-Pst

b. Kanozyo-wa [John-ga t_i happyoosi-ta] **no**$_i$-o motteki-ta
she-Top John-Nom present-Pst.Adn -Acc bring-Pst

However, as we argued in 1.3.2, *no* is unlikely to be a pronoun. The reasons raised in 1.3.2 were that: (i) unlike other Japanese pronouns, *no* cannot form an NP alone; (ii) it cannot combine with determiners; and (iii) Japanese does not have bound pronouns (i.e. clitics) and *no* would be a unique element of Japanese morphology. An additional piece of evidence is that *no* is not necessary in the parallel constructions in Classical Japanese (cf. (3), (4)). If *no* were a pronoun, we would expect to see it there too.

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[10] A genitive construction with a null pronominal head in Modern Japanese is expressed as it was in Classical Japanese:

(i) [Kyoo no *pro*]-o mo sa-koso omou-rame.
Kyoto -Acc also so-Emp think-may
(You) may think that those (=letters) from Kyoto are also so (=come without presents).
(Makuranosoosi, 11th century)

Thus, the existence of *no* as a pronoun is controversial.

Regarding *no* as a nominalizer, (29c), the latter corresponds to the nominalizing function of the adnominal form that we saw in 4.1. If we are to assume that the adnominal form in Modern Japanese no longer has this function, we may attribute it entirely to *no*. But *no* cannot nominalize every type of clause, as shown in (32):

(32) a. *Kanozyo-wa [John-ga ronbun-o happyoosure-ba] **no**-o
she-Top John-Nom paper-Acc present.Cnd-Cnd -Acc
kentoositeiru.
is.considering
She is considering if John presents the paper.

b. *Kanozyo-wa [John-ga ronbun-o happyoosi-ta-kadooka] **no**-o
she-Top John-Nom paper-Acc present-Pst.Cnc-whether -Acc
kiiteiru
is.asking
She is asking if John presented the paper.

In (32a), the embedded predicate is in the conditional form and in (32b), it is in the conclusive form. In both examples, the sentences are semantically well-formed and the main predicates can take a noun as their complement, but they are ungrammatical. Thus, as proposed in 4.1.2, the nominalizing function in Modern Japanese is performed jointly by the adnominal form and *no*.

Finally, regarding *no* as a complementizer, (29d), Kuroda (1974) analyzes *no* in head-internal relative clauses ("pivot-independent relative clauses"), as exemplified in (33), as a "nominalizing complementizer":

(33) Taro-wa [ringo-ga sara-no ue-ni at-ta **no**] -o tot-te,
Taro-Top apple-Nom plate-Gen above-Loc be-Pst Comp-Acc take-Cnt
poketto-ni ire-ta.
pocket-Loc put-Pst
Taro picked up an apple which was on a plate and put it in a pocket.

Here, *no* nominalizes the embedded clause and allows the accusative Case marker *-o* to attach itself. Moreover, *no* in cleft constructions (i.e. (20a)) is generally assumed to

be a complementizer (cf. Kuroda 1999, Hiraiwa & Ishihara 2002). However, as Hoshi (2005) points out, *no* is different from other complementizers such as *that* in English or *to* in Japanese. First, -*no* can be Case-marked but other complementizers may not:

(34) a. John believes [that Mary is innocent].

b. John-wa [Mary-ga muzitu da] to (*-o) sinziteiru.
John-Top Mary-Nom innocent be Comp -Acc believe
John believes that Mary is innocent.

Second, if we assume that the embedded clause containing the adnominal form is a CP, *no* selects for a CP, whereas complementizers normally select for an IP.

Thus, summarizing so far, previous analyses of the particle *no* are arguable: facts from first language acquisition and Classical Japanese suggest that the genitive *no* is qualitatively different from the other types of *no*; the status of *no* as a pronoun is also dubious given that its properties are distinct from other Japanese pronouns; *no* cannot serve alone as a nominalizer and requires the presence of the adnominal form; and as a complementizer, *no* has properties that do not coincide with other complementizers.

Kitagawa & Ross (1982) adopt a different standpoint and claim that *no* is uniformly a Prenominal Modification Marker (MOD). We have already seen part of their hypothesis in 1.3.1, while dealing with the identity of *no* in the genitive construction. According to Kitagawa & Ross (1982), prenominal modification structures are derived by the following rules:

(35) a. MOD Insertion: $[_{XP}$ Y X] → $[_{XP}$ Y MOD X]

where: (i) X is some projection of [+N, -V] or [+D];
(ii) Y is any maximal projection modifying X;
(iii) MOD in modern Standard Japanese is *no*.

b. *no*-Deletion: [$_{XP}$ Y *no* X] → [$_{XP}$ Y X]

where: (i) Y is tensed [+V]; and;

(ii) X is lexically represented.

(Kitagawa 2005:1247)[11]

The application of the two rules give rise to the following paradigm:

(36) <u>Overt head noun</u> <u>Null head noun</u>

a. [$_{N}$ N *no* [$_{N}$ N]] b. [$_{N}$ N *no* [$_{N}$ *e*]]

c. [$_{N}$ N *pro*$_{i}$ V [$_{N}$ N$_{i}$]] d. [$_{N}$ N N$_{i}$ V *no* [$_{N}$ *e*$_{i}$]]

(*e*: phonologically null category) [12]

(36a) and (36b) correspond to the genitive construction, (36c), to relative clauses[13], and (36d), to head-internal relative clauses. In their proposal, *no* is neither a nominalizer nor a complementizer. It is a modification marker motivated by "conceptual clarity". That is, Japanese has the canonical word order SOV and the presence of V marks the end of the sentence. A relative clause with an overt head noun has the order SVO or OVS and the deviance from the unmarked order suffices to signal its presence. However, a relative clause without an overt head noun would have the order SV_ or OV_ and the sentence boundary would not be clear. So, *no* is inserted for clarity. The idea of "conceptual clarity" correctly predicts that *no* is inserted when there is no overt head noun.

The rules also successfully predict the presence of *no* in the following examples:

(37) [kane-o harat-te] no ageku
money-Acc pay-Ger consequence
consequence of having paid money

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[11] The rule in Kitagawa (2005:1247; 6b) says: *no*-Deletion: [$_{XP}$ Y *no* X] -> [$_{Y}$ Y X]. I believe this is a typographical error, because the deletion of *no* should not change the nature of the major projection.

[12] The nature of the phonologically null category is not made clear.

[13] Kitagawa (2005) assumes the base-generation analysis of relative clauses.

(38) [kare-ga kure-ba] no hanasi
he-Nom come-Cond talk
talk (that would become relevant) if he comes

(Kitagawa & Ross 1982:29)

The embedded predicate in (37) is gerundive and it is conditional in (38). In neither case is it finite, so *no*-Deletion does not apply. However, the rules fail to predict examples such as the following:

(39) [kare-ga ki-ta kadooka] *(no) mondai
he-Nom come-Pst whether question
question of whether he came

The embedded predicate is in past tense, so *no*-Deletion should apply, but the example is ungrammatical without *no*. In fact, Kitagawa & Ross (1982) acknowledge that *no*-Deletion does not apply when the embedded clause bears some illocutionary force, such as a "quote" connotation (example from Soga & Fujimura 1978, via Kitagawa & Ross 1982):

(40) [sekai-o odorokasu] *no* enzetu
world-Acc surprise speech
speech that surprises the world

(40) is also well-formed without *no*, but its presence adds the connotation that the modifying clause is a quote: "the speech that reportedly surprises the world". Thus, *no*-Deletion does not apply for the sake of conceptual clarity. However, the embedded clause in (39) is merely the complement of *mondai* "question" and has no illocutionary force. Nor is it a quote, since it is ill-formed as a simple sentence:

(41) *Kare-ga ki-ta kadooka?
he-Nom come-Pst whether
Whether he came?

Another counterexample is the case of infinitival clauses:

(42) [hiza-o **mageru**] (*no) undoo
knee-Acc bend excercise
exercise to bend the knee

(42) is a nominal complement. Although Japanese does not have infinitival forms *per se*, we know that the verb is non-finite because there is no notion of tense. Since it is non-finite, *no*-Deletion should not apply, but in fact it is to the contrary. Thus, despite the merit of unifying the various instances of *no* under conceptual clarity, Kitagawa&Ross' proposal suffers from empirical problems.

Alternatively, Hoshi (2005) proposes that *no* in the contexts (36b), (36c), and (36d) is a D-element and is a potential licenser of null nominal complements. He assumes the D-CP structure proposed in Kayne (1994):

(43) $[_{DP}[_{IP} \ldots t_i \ldots]_j [_{D'}$ *no* $[_{CP} e_i [_{C'} C\ t_j]]]]$

Recall that in overt relative clauses, D^0 is left empty. Hoshi claims that the presence of *no* when the head noun is null is due to PF requirements because it does not have any semantic content and has no significant role in LF. He also considers the fact that Case markers such as the nominative *-ga* or the accusative *-o* appear with overt arguments, but not with null arguments, and interprets this as a requirement that the "nominal" status of an overt argument must be overtly guaranteed. In particular, he proposes the following PF licensing condition and PF Principle of Economy:

(44) PF Licensing Condition on the DP Structure (Hoshi 2005:32)
The D head of the DP structure must be overtly realized if and only if its complement is phonologically completely null.

(45) PF Principle of Economy of Lexical Realization (Hoshi 2005:32)
Unless necessary, suppress lexical realization of an element as much as possible.

According to Hoshi, when the head of a relative clause is overt, the nominal status of the whole DP becomes visible thanks to its overt form. In Kayne's (1994) analysis,

the head noun is promoted to Spec-CP so that the CP would acquire a nominal property and be selected by D. In contrast, when the head noun lacks phonological form, its nominal status cannot be made visible and *no* is inserted to fulfill this role. On the other hand, the Principle of Economy sees to it that *no* does no appear when it is unnecessary.

The assumption of *no* as D naturally accounts for the peculiarities mentioned above, namely, why *no* selects for a CP, why Case particles can attach to it, and why it has a nominalizing function. On the other hand, the PF Licensing Condition explains why *no* is necessary when the head noun is null.

However, Hoshi's proposal seems to have problems on theoretical and empirical grounds. On the theoretical side, the complement of D in the structure proposed by Kayne (1994) is a CP, not the head NP. The CP in all the cases considered is never "phonologically completely null", so the PF Licensing Condition would never license *no* in D^0. Furthermore, a null pronoun is in theory a pronoun with nominal features that lacks phonological form. Thus, assuming that the outcome of syntax feeds PF, it does not make sense that the null pronoun fails to provide CP with nominal features in syntax simply because it lacks phonological form.

On the empirical side, to assume *no* as D implies that the embedded clause in cleft constructions and nominalized clauses are D-CP structures, whereas they are generally assumed to be CPs. Likewise, it leaves unexplained why *no* is inserted in certain nominal complements as in (37), (38) and (40). As we have discussed in 3.1, nominal complements are considered to be sentential adjuncts to the head noun and they do not have a D-CP structure. Thus, a different type of *no* must be assumed for these cases.

In sum, contrary to traditional assumptions, there is evidence to believe that *no* is not a pronoun or a nominalizer on its own account. The assumption of *no* as a complementizer is less controversial, but its distinct properties suggest that it is different from other complementizers. Other proposals, such as *no* as a prenominal

modification marker (MOD) (Kitagawa & Ross 1982) or *no* as a potential licenser of null nominal complements (Hoshi 2005) provide ways of unifying the different types of *no* and capturing the fact that *no* is necessary when there is no overt head noun. But neither is without problems. In the following section, I will present a new proposal based on PF requirements, which follows the same insight of previous analyses, but gives a natural explanation on the distribution of *no*.

4.4 PF requirements on clauses

4.4.1 The requirement of Clausal Typing

Cheng (1991) looks into the typology of *wh*-questions and puts forth a theory of Clausal Typing. The original idea comes from Chomsky & Lasnik (1977), who claim that a [+WH] feature should be indicated in the sentence because each clause must be identified as to its type (e.g. declarative, interrogative, exclamative, etc).

She observes that languages that allow *wh*-in-situ in the main clause lack overt *wh*-movement. They also lack overt movement in *yes-no* questions and make use of an overt element (e.g. particle, special inflection, agreement) or a morpho-phonological process (such as a local tonal accent) that generally occurs at the clause-periphery. Japanese is such a language. In *wh*-questions, it leaves the *wh*-word in-situ and the interrogative particle *-ka* appears at sentence-final position. *Yes-no* questions are also formed without movement and the same interrogative particle *–ka* is used:

(46) a. <u>*Wh*-question</u>

Taro-wa **nani**-o kai-masi-ta-**ka**?
Taro-Top what-Acc buy-Pol-Pst-Int
What did Taro buy?

b. <u>*Yes-no* question</u>

Taro-wa hon-o kai-masi-ta-**ka**?
Taro-Top book-Acc buy-Pol-Pst-Int
Did Taro buy the book?

In contrast, languages that have overt *wh*-movement, such as English, also form *yes-no* questions by movement, as the translation of the examples shows. According to Cheng, all languages fall under one type or another, that is, no language alternates between *wh*-in-situ and overt *wh*-movement in matrix questions.

Cheng attributes the two ways of *wh*-question formation to the requirement of Clausal Typing. In-situ languages type the matrix clause as "interrogative" by inserting a particle. This "typing particle" is assumed to be generated in C^0, because it is inserted for this specific purpose (see also Bach 1970, Bresnan 1972, Nishigauchi 1990).

Languages that do not have typing particles meet this requirement by moving the *wh*-word to Spec-CP, where it would enter into Spec-head agreement with C^0. Since syntactic movement has a cost, Clausal Typing by a particle is preferred whenever possible in accordance with the Principle of Economy of Derivation (Chomsky 1989) and syntactic movement occurs only if a language lacks the first option. That is why there is no alternation between the two options. In sum, Cheng states the Clausal Typing Hypothesis as follows:

(47) Clausal Typing Hypothesis (Cheng 1991:29)
Every clause must be typed.
In the case of typing a *wh*-question, either a *wh*-particle in C^0 is used or else fronting of a *wh*-word to the Spec of C^0 is used, thereby typing a clause through C^0 by Spec-head agreement.

Since *wh*-movement in in-situ languages occurs at LF and LF-movement is costless, Clausal Typing could occur uniformly at LF. But, the fact that typing particles must be introduced in in-situ languages shows that this requirement, for some reason, must be met at surface structure. Cheng (1991:34) speculates that "if there is such a thing as Clausal Typing, it is needed to provide information for phrasal phonological processes and not to interpretation in particular". True enough, in the case of Japanese, the presence of the interrogative particle does not add any semantic value to the clause,

and in colloquial speech, *-ka* can be substituted by a rising intonation[14]:

(48) a. *Wh*-question (colloquial speech)

Taro-wa nani kat-ta?
Taro-Top what buy-Pst
What did Taro buy?

b. *Yes-no* question (colloquial speech)

Taro-wa hon kat-ta?
Taro-Top book buy-Pst
Did Taro buy the book?

Moscati (2006) extends Cheng's (1991) Clausal Typing Hypothesis to the case of negation. In particular, he focuses on the role it plays in syntax for selectional requirements. Observe the following distribution:

(49) a. Mary believes that/*if he will come.

b. Mary wonders *that/if he will come.

(Moscati 2006:61-62)

Believe selects for a declarative clause, so a clause headed by *that* is grammatical, but one headed by *if* is not. *Wonder* selects for a question and the situation is reversed. Since this contrast is produced only by the complementizers, the properties "declarative" or "question" must come from them. In terms of Clausal Typing, the complementizers must be equipped with the "typing features", say [+declarative] and [+Q] respectively, and they must type the CP for selection. As in the case of *wh*-questions, this process occurs at the clause-periphery.

The next examples from Basque show that negation should also be included among the types of clauses:

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[14] Alternatively, the colloquial interrogative particle *–no* is used instead of *-ka*, accompanied by a raising intonation:

(i) Taro-wa nani(-o) kat-ta-**no**?
(ii) Taro-wa hon(-o) kat-ta-**no**?

(50) a. [$_{CP}$ Galapagoak muskerrez beterik daude**la**] diote
Galapagos lizards-of full are-**that** say-they
They say that the Galapagos are full of lizards.

b. Amaiak [$_{CP}$ inork gorrotoa dio**nik**] ukatu du.
Amaia anyone hated has-**that.Neg** denied has
Amaia has denied that anybody hated her.

(Moscati 2006: 45-46)

Basque has a negative complementizer, *enik*. In (50a), the matrix verb, *diote* "say", selects for a declarative clause and the complementizer that heads the embedded clause is *-la*. In (50b), *ukatu* "deny" selects for a negative clause and the complementizer is *-nik*. Thus, we may assume that *-la* has the typing feature [+declarative] and *-nik,* [+negative]. When they are inserted in C^0, they type the embedded clause and enable it to meet the selectional requirements of the matrix verb. In effect, the embedded clause in (50b) contains a negative polarity item *inork* "anyone", that is licensed despite the absence of negation inside the embedded clause.

By the same token, I propose that sentential modifiers are typed as "adnominal" and in the case of Japanese, the adnominal form and the particle *no* carry out this function.

Let us consider once again Cheng's (1991) proposal, (47). First, every clause must be typed at the surface structure. Cheng speculates that this is in order to "provide information for phrasal phonological processes." Translated in minimalist terms, Clausal Typing is a PF requirement and that is why it must be obtained by overt elements. Second, Clausal Typing is achieved by direct insertion of a particle with the appropriate typing feature into C^0 or by Spec-Head agreement with a word bearing the typing feature. Rizzi (1997, 1999) proposes an articulated CP-system to capture the heterogeneous nature of its components:

(51) ForceP … Int(errogative)P ... Top(ic)P … Foc(us)P … Fin(ite)P

ForceP is the highest projection and expresses the illocutionary content of the clause (e.g. declarative, interrogative, etc.). As the highest layer, it holds the interface with

the outside (e.g. the matrix clause). Since clausal types are relevant for selection, it must be in ForceP that Clausal Typing takes place. The intermediate layers, IntP, TopP and FocP are projected when corresponding elements are present in the structure. FinP is the lowest projection and holds the interface with the inside (i.e. the content of IP).

Let us suppose that Force^0 needs to be given a "value" in order to express the force (or the type) of the clause and this is done in a local configuration. In fact, Moscati (2006) proposes the same feature checking mechanism as the one proposed in syntax (cf. Torrego & Pesestky 2004)[15]. I leave open the question of whether "typing features" are of the same nature as functional features for future research.

Summarizing so far, Cheng's (1991) Clausal Typing Hypothesis can be reinterpreted as follows:

(52) <u>(Revised) Clausal Typing Hypothesis</u>
The force (or the type) of each clause is the projection of a (typing) value given to Force^0 and it must be visible at PF.

Let us see how (52) applies to the case of sentential modifiers in Japanese. As we have seen, the predicate of sentential modifiers must be in the adnominal form. In order for a clause to be selected as a modifier or a complement, it must be typed as "nominal" or "adnominal". Let us suppose that the adnominal form has the value [+nom(inal)]. Along the lines of Hiraiwa (2001), the predicate is raised successive cyclically from its original position, forming an amalgamation of features (T-v-V). Finally, it raises to Spec-ForceP in order to give Force^0 the [+nom] value. The latter is in turn projected as the force of the clause and it is visible at PF, thanks to the adnominal form. In effect, the adnominal form always occupies the final position of

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[15] Moscati (2006) proposes that languages that lack overt means (complementizers or affixes) of marking negation obtain Clausal Typing by feature checking. However, I do not agree with his proposal, because according to the Principle of Economy, that would be the most economical and preferred option for all languages. Moreover, as Cheng (1991) suggests, Clausal Typing must be obtained in an overt way.

all the suffixes that may attach to the predicate:

(53) [itumademo owara-nasa-sou-dat-**ta**] enzetu
forever end-Neg-Mod-be-Pst.Adn speech
speech that seemed to not end forever

Next, let us consider the cases where there is an overt head noun and the particle *no* is present:

(54) a. Focus particle *dake*

[*pro* sio-de t_i azituke-ta dake no] suteeki$_i$
salt-Obl flavor-Pst.Adn only steak
steak that is only flavored with salt

b. Interrogative

[zyuu-nen-ni ichi-do t_i okiru-kadooka no] daizisin$_i$
ten-years-Obl one-time happen.Cnc-whether big-earthquake
big earthquake that whether happens once in ten years

c. Gerundive

[kane-o harat-te no] ageku
money-Acc pay.Cnt-Ger consequence
consequence of having paid money

d. Conditional

[kare-ga kure-ba no] hanasi
he-Nom come.Cnd-Cnd talk
talk (that would become relevant) if he comes

(54a) has served throughout as our test for the presence of the adnominal form. But why *no* must be inserted was left unanswered. According to the phrasal structure, (51), the focus particle *dake* or a focus operator is located at FocP and takes scope over the clause. The attachment of *-dake* seems to prevent the adnominal form giving its value to Force^0. Recall from the previous sections that *no* has a nominalizing function. In terms of Clausal Typing, it may be, then, that *no* is a typing particle with the value [+nom] and since the adnominal form cannot reach Force^0 due to an intervening element, it is inserted directly into Force^0. This way, Force^0 receives its value and the Clausal Typing requirement is satisfied.

If our assumption of *no* as a typing particle is on the right track, its presence in the rest of the examples in (54) falls out naturally. In neither of the examples is the embedded predicate in the adnominal form: in (54b) it is in the conclusive form, in (54c), it is in the continuative form, and in (54d), it is in the conditional form. Since none of these forms possesses the desired value for the clause to become nominal, *no* is inserted.

From a cross-linguistic perspective, Cheng's observation of *wh*-questions applies in general to the Clausal Typing of adnominal clauses. We have proposed that in the unmarked case in Japanese, the adnominal form serves to type the clause by giving the [+nom] value to Force^0. When this is not possible, either due to an intervening element or because the adnominal form is absent, *no* undertakes this role. On the other hand, in the case of English, Clausal Typing is achieved by a complementizer or a relative pronoun:

(55) the books that/which John bought

Spanish also makes use of a relative complementizer:

(56) los libros que John compró

It follows, then, that there are three strategies for the Clausal Typing of adnominal clauses: the preferred strategy is by a verbal suffix (i.e. the adnominal form); the next is by a particle (e.g. *no*); and the least preferred is by a free morpheme (i.e. a complementizer or relative pronoun). Japanese lacks complementizers and relative pronouns because it achieves Clausal Typing by the first two options. On the other hand, English and Spanish only use complementizers and relative pronouns because they lack the first two options. If our analysis is on the right track, it is predicted, as in the case of *wh*-questions, that no language alternates between the bound-morpheme strategy (i.e. the use of verbal suffixes and particles) and the free-morpheme strategy (i.e. the use of complementizers or relative pronouns).

4.4.2 The requirement on embedded clauses without overt head nouns

We are left two more cases to account for. The first is the case of adjectival clauses and relative clauses that are headed by a null pronoun. (18) is depicted here as (57):

(57) a. Adjectival clause

Watasi-wa [*pro* ooki-i **no**] *pro*-o mi-ta.
I-Top big-Adn Pt -Acc see-Pst
I saw a big one (=car).

b. (Restrictive) relative clause

Kanozyo-wa [John-ga t_i happyoosi-ta **no**] pro_i-o motteki-ta.
she-Top John-Nom present-Pst.Adn Pt -Acc bring-Pst
She brought the one (=paper) that John presented.

In these examples, the adnominal form is present at the clause-periphery. According to our hypothesis, Clausal Typing must have taken place at ForceP by the adnominal form, but the particle *no* must be present. It does not seem that *no* plays a role in the syntax or the semantics of the phrases. The second case is of nominalized clauses. (20) is repeated here as (58):

(58) a. Cleft constructions

[John-ga taipusi-ta **no**]-wa ronbun da.
John-Nom type-Pst.Adn Pt -Top paper be
What John typed is a paper.

b. Infinitival clauses

[PRO Zenzen undoo-o si-na-i **no**]-wa kenkoo-ni yoku-nai.
Not-at-all excercise-Acc do-Neg-Adn Pt -Top health-Obl good-not
To not do any exercise is not good for the health

c. Head-Internal Relative Clauses[16]

John-wa [Mary-ga pizza-o tukut-ta **no**]-o yorokonde tabe-ta.
John-Top Mary-Nom pizza-Acc make-Pst.Adn Pt -Acc delightedly eat-Pst
John ate delightedly the pizza that Mary made.

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[16] See Kuroda (1974, 1975/76, 1976/77) for the view that *no* is a nominalizing complementizer and head-internal relative clauses do not have external heads. See Kitagawa (2005) and the references within for the contrary view that they are headed by an empty category, as well as analyses on the different types of head-internal relative clauses.

Here again, the adnominal form should satisfy the requirement on Clausal Typing, but the particle *no* is required. Apparently, the presence of *no* in these cases is independent of Clausal Typing and has to do with the absence of an overt head noun: in (57), the clauses are headed by a null pronoun, and in (58), there is no head. In effect, Kitagawa & Ross (1982) explain the need for *no* in these cases in terms of "conceptual clarity" and Hoshi (2005), in terms of visibility at PF, as stated in the PF Licensing Condition in (44).

I take a step further along the lines of Hoshi (2005) and propose that the presence of *no* in the two cases is related to the formation of phonological units at PF. The behavior of particles in these cases gives us a clue to solving the puzzle.

Japanese particles are bound morphemes and can only attach to elements with phonological form. For example, particles cannot attach to null pronouns:

(59) a. Watasi-wa hon-o katta.
I-Top book-Acc bought
I bought a book.

b. *pro*-(*wa) *pro*-(*o) katta.
bought
(I) bought (a book).

In (59a), the subject *watasi* "I" is marked with the topic particle -*wa* and the object *hon* "book" is marked with the accusative Case particle -*o*. In (59b), the two arguments are substituted by small *pro*s. Provided sufficient information, the interpretation is the same as (59a), but the particles cannot appear.

The fact that the examples in (57) and (58) are all accompanied by particles indicates that the particles are attached to an element with phonological form. Evidently, since *no* is present in all the examples, we may suspect that it is *no* that enables their attachment. But as we have seen in 1.3, in our argument against the hypothesis that *no* is a pronoun, *no* is also a bound morpheme and cannot form an NP alone. Here is example (36) from 1.3, repeated as (60):

(60) ***No**-o kat-ta.
Acc buy-Pst
(I) bought one.

That is, *no* is like other particles in requiring an overt element to attach itself. Since it is well-formed in (57) and (58), we may say that *no* is attached to the string of phonological forms of the embedded CP that precedes it. But then, why can the other particles not attach themselves instead of *no*?

In this respect, recall that in Classical Japanese, *no* was not required in the same contexts as (57). (61a) is repeated from (3a) and (61b) is repeated from (4a):

(61) a. Adjectival clause

[*pro* ito kiyorakani koobasi-**ki**] *pro*-o ki-tamae-ri.
very purely aromatic-Adn -Acc wear-Hon-Perf
(he) wore (clothes that are) very purely aromatic.

(Genzi Monogatari, 11th century)

b. Relative clause

[_ kaku ar-**u**] *pro*-o mi-tutu kogi yuku manimani,
thus be-Adn -Acc look-as row go along
As we row along, looking at (the scenery) that is thus there,

(Tosanikki, 10th century)

As the examples show, the particle *-o* could appear without the presence of *no*. Likewise, observe the same constructions as the ones in (58) in Classical Japanese ((62a-c) are repeated from (8), (9), and (10) respectively):

(62) a. Cleft constructions

[kore to te, sasi-ide-**taru]**-ga ari-turu fumi nareba
this say-that, hold-out-Perf.Adn-Nom be-Perf.Adn letter be-Cond
what (she) holds out, saying "this", is the letter of just a while ago

(Makuranosoosi, 11th century)

b. Infinitival clauses

[PRO tsuki-no kao mi-**ru**] -wa imu koto
moon-Gen face see-Adn Top avoid.Adn thing
To look at the face of the moon is something (that should be) avoid(ed)

(Taketori Monogatari, 10th century)

c. Head-Internal Relative Clauses

[ono-ga ito medetasi to mi-tatema-**turu]**-o-ba tazune-omoosa-de.
I-Nom very splendid Comp consider-Hon-Perf-Acc-Emp visit-think-Sup
(You) did not think to visit me, (who considers you as very splendid).

(Genzi Monogatari, 11th century)

Thus, in Classical Japanese, the string of phonological forms of an embedded clause allowed for the attachment of particles and in Modern Japanese, it does not. Incidentally, the tail of the string in both cases is occupied by the adnominal form. I believe that the difference regarding the attachment of particles is due to the diachronic change that the adnominal form has suffered.

Suppose that in addition to the requirement of Clausal Typing, there is a PF requirement that clauses must be "closed-off"[17]. Then, we might say that the adnominal form in Classical Japanese could "close-off" the embedded clause and form a phonological unit valid for the attachment of particles, but that in Modern Japanese it cannot, and *no* serves a complementary function.

One may argue that this requirement does not account for (61), where the embedded clause is headed by a null pronoun. If we assume, as we demonstrated in 3.4, that the relative clause and the head noun do not form a constituent, both constructions in (61) are headed by a null pronoun. If so, the situation is similar to (59b): the particle is attaching itself to a null pronoun. Why, then, is the attachment not allowed in (59b) and allowed in cases where the pronoun is accompanied by a sentential modifier?

The answer lies in the concept of "phonological unit" and supports the hypothesis that the attachment of particles takes place at PF. Sentential modifiers and their head

[17] I am thankful to Luigi Rizzi for the original idea.

nouns form a phonological unit, as evidenced by the fact that there is no intonational break between the two. Thus, in the case of the null head noun, the latter itself is not "visible" at PF due to the lack of phonological content, but the unit itself is; whereas a null pronoun alone would not be visible at all.

The final part of our hypothesis concerns the nature of *no*. If our argument is on the right track, *no* in (57) and (58) is added to a string of phonological forms at PF because the unit containing the adnominal form is not "closed-off" properly. As in the case of Clausal Typing, *no* serves a complementary function to the adnominal form. The position it occupies is different: *no* for Clausal Typing is inserted into Force^{0}; whereas *no* for "closing-off" is inserted at the tail of a phonological unit. However, according to our proposal, both instances of *no* are motivated by phonological requirements. Thus, we conclude that *no* is a PF-element that serves two complementary functions to the adnominal form, namely, Clausal Typing and "closing-off" of nominal clauses.

4.5 Summary

A contrastive analysis of the adnominal form in Classical and Modern Japanese reveals that the adnominal form has been reduced both phonologically and functionally in Modern Japanese. The adnominal form in Modern Japanese retains the two central functions, namely, marker of modification and nominalizer, but the particle *no* is required in the absence of an overt head noun.

On the syntactic status of the adnominal form, we have agreed with the view that it is related to the C-system. This is supported by the fact that it influences the nature of the clause itself and that its counterparts in other languages (e.g. Korean, Kihung'an) are also considered as C-elements.

Regarding the identity of *no*, we examined various proposals that have been made in the literature to capture its nominal and complementizer-like aspects. However, none

has proven to be free of theoretical and empirical shortcomings.

As an alternative, we have proposed two phonological requirements. The first one reinterpretes Cheng's (1991) Clausal Typing Hypothesis as a PF requirement. In particular, we have claimed that the adnominal form serves the function of marking the clause as (ad)nominal. This is carried out by a typing feature [+nom] that is projected in ForceP. At the same time, we have assumed that *no* also possesses this feature and plays a secondary role when the abnominal form fails to satisfy the requirement.

The second requirement that we have proposed is that clauses must be "closed-off". We have claimed that the adnominal form in Modern Japanese fails to close off the phonological unit that contains the embedded clause, and once again, *no* serves the complementary function to fulfill it.

Contrary to previous analyses, our hypothesis analyzes the particle *no* as a PF-element motivated by phonological requirements. Although we have not dealt with how clauses are actually "closed-off" in PF and what exactly is lacking in the adnominal form in Modern Japanese that prevents this function, our proposal captures the insights of previous analyses and adequately accounts for the distribution of the adnominal form and the particle *no* in embedded clauses.

Chapter 5 The Acquisition of Sentential Modifiers

5.1 Previous studies in L2 acquisition

To the best of my knowledge, the SLA (second language acquisition) of various types of sentential modifiers in Japanese has never been documented. However, the acquisition of relative clauses has been studied extensively both in Japanese and in other second languages (L2s). The majority of the studies have focused on the question of whether the Noun Phrase Accessibility Hierarchy (Keenan & Comrie 1977, hereafter NPAH) is valid for predicting the order of acquisition in L2. The NPAH is a generalization on natural languages and states that the relativizability of different grammatical roles adheres to the following hierarchy:

(1) Subject (SU) > Direct object (DO) > Indirect object (IO) > Oblique (OBL) > Genitive (GEN) > Object of comparison (OComp)

In particular, if a certain type of relative clause is available in a given language, say IO relatives, all the higher types in the hierarchy (i.e. SU and DO relatives) are also available in that language. Likewise, it predicts that there is no language that has a lower type and lacks a higher type: for example, there is no language that has GEN relatives but lacks DO relatives. The hypothesis has been proven to hold for a wide variety of natural languages.

In language acquisition studies, the prediction has been that relative clauses that are higher on the hierarchy are acquired earlier than the lower ones. The prediction has been borne out in the first language acquisition (L1A) of English and German (Diessel & Tomasello 2000, 2005) and in the SLA of English (Schachter 1974, Echman 1977, Gass 1979, Liceras 1986) and several European languages (Italian (Croteau 1995), French (Hawkins 1989), Swedish (Hyltenstam 1984), etc.). As originally proposed by Keenan & Comrie (1977), it may be that the NPAH ultimately "reflects the psychological ease of comprehension," and that a higher type is easier to process than a lower type.

However, studies on the acquisition of relative clauses in Japanese have given mixed results. In L1A, Ozeki & Shirai (2007) have observed that children can equally produce SU, DO, and OBL relatives. In L2 acquisition, Kanno (2000) has found that SU relatives are easier than DO relatives in a listening comprehension task, while Roberts (2000) has reported that there is an accuracy order of SU > IO = OBL > DO = GEN in a sentence-combining task, and Hasegawa (2005) has found an accuracy order of SU = OBL (locative) > OBL (instrumental) > DO in an oral picture-description task. The inconsistency of the results seems to lend support to Matsumoto (1988, 1997) and Comrie's (2002) proposal that noun-modifying clauses in many Asian languages, including Japanese, are qualitatively different from those in European languages (i.e. they are "general noun-modifying constructions"), and as such, the NPAH does not serve to predict the order of acquisition in these languages.

In passing, it has been noted that learners sometimes insert *no* between the modifying clause and the head noun (Huter 1996, Fujino 2006, Ozeki & Shirai 2007):

(2) ookii (*no) kaban
big bag
big bag

(Fujino 2006)

(3) soopu-wa fuku-no arau (*no) mono
soap-Top clothes-Gen wash thing
soap is a thing to wash clothes

(Huter 1996, via Ozeki & Shirai 2007)

(4) asoko-ni tatu (*no) hito
there-Loc stand person
person that stands there

(Fujino 2006)

(2) is an adjectival clause, (3), a nominal complement, and (4), a SU relative. This overgeneration of *no* is an interesting phenomenon in several respects: it is observed across sentential modifiers in general; it is observed among learners of typologically

different first languages (L1s) such as English, Chinese, Korean, and Spanish; there is no positive evidence in the learners' input (i.e. in the teacher's speech and other audio input); and does not seem to be caused by superficial transfer, because in Spanish and English for example, nothing is inserted between the adjective and the head noun.

Oga & Akita (2005) conducted a grammaticality judgment task and an elicited production task with four L2 learners of different L1s[1] (Myanmar language (MY)[2], English (EN), Chinese (CH), and Korean (KO)) in order to determine whether the overgeneration of *no* can be corrected by explicit instruction. They tested SU relatives, DO relatives, adverbial relatives (time and place), adjectival clauses, and nominal complements. In the first task, the participants were asked to judge the acceptability of grammatical examples and ungrammatical ones (with *no*) on a six-point scale of 0 to 5. In the second task, they were shown picture cards and asked to produce relative clauses. The four participants were divided into two groups: one that received explicit instruction (MY and CH) and another that did not (EN and KO). The two tasks were performed before and after 8 sessions (10 minutes each) that took place over the course of a month.

Before the sessions, all participants accepted the overgeneration of *no* to a certain degree (ranging from 43.8% (KO) to 78.1% (CH)). In the production task, CH and EN overgenerated *no* considerably (CH 46.9%, EN 59.4%), whereas MY and KO did not do it at all. At the same time, all the participants produced other answers that did not involve relative clauses.

The results after the sessions vary. In the instructed group, MY accepted grammatical examples almost 100% and rejected more ungrammatical examples than before the sessions, indicating that she had mastered the construction. CH also improved in her acceptance of grammatical examples, but continued to accept ungrammatical

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[1] The age of the participants is not mentioned in their study.

[2] In the Myanmar language, also known as Burmese, relative clauses are head-final. In addition, the embedded verb carries a relative suffix and must appear at the clause-periphery, adjacent to the head noun. (cf. Romeo 2008) Typologically, it has the same characteristics as Japanese.

examples with *no* at a high rate (78.8%). In the production task, she stopped overgenerating *no* completely and both MY and CH were now able to produce relative clauses without resorting to simple clauses. In the non-instructed group, EN and KO both showed a small decrease in the acceptance of grammatical examples and a small improvement in rejecting ungrammatical examples. In the production task, EN's overgeneration of *no* increased (81.3%), KO continued to not overgenerate *no*, and they both continued to resort to simple clauses.

Overall, the results showed that structure-based instructions help reduce the overgeneration of *no*. However, as the authors acknowledge, the results are not consistent in other respects because of the very limited number of participants. Nor do they provide any discussion on the diversity of L1s, that is, why MY and KO did not overgenerate *no* at all, or why there was such a difference between accuracy in acceptance and production. In this respect, Liceras (2003) investigates the acquisition of gender in L2 Spanish. She analyzes longitudinal data from two children (one is L1 Arabic, age 4-5, and the other is L1 Farsi/Swedish, age 8-9) and finds that unlike in the case of L1A, there are no prenominal vowels (i.e. monosyllabic placeholders in DPs) in SLA. At the same time, she observes that the two subjects show different patterns of gender mismatches and attributes this to the difference in age and L1. If we take the view that the second language is acquired on the basis of the first (and a "mature" UG[3]), it is natural that different L1s should result in different acquisition patterns.

In sum, the overgeneration of *no* is an interesting phenomenon, but no principled account of it has been given so far. It is unlikely to be a coincidence that it is observed among typologically different L1s. Rather, there seems to be an idiosyncratic property of Japanese or some processing problem that causes the overgeneration at a certain stage of acquisition.

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[3] The concept of "mature UG" allows for a version of the critical period hypothesis where an organ (in this case language) cannot grow twice (Strozer 1994, Liceras 1996a,b). Citation adopted from Liceras (2003).

5.2 The overgeneration of 'no' in L1 acquisition

What is even more intriguing about the overgeneration of *no* is that Japanese children exhibit a very similar phenomenon around the ages of two and four (Okubo 1967, Clancy 1985, Murasugi 1991, among others), as shown in (5) and (6).

(5) aoi (*no) buubuu
blue car
blue car

(Clancy 1985)

(6) kaizyuu-ni natta (*no) onnanoko
monster-Dat became girl
girl that became a monster

(Harada 1980)

The overgeneration of *no* is observed in the same types of constructions as in SLA (i.e. relative clauses, nominal complements, and adjectival clauses). An interesting question, then, is whether the presence of *no* in L1 and in L2 can be attributed to the same cause. If so, it would mean that L2 acquisition of this particular aspect in Japanese takes the same course as L1A. It is common knowledge that SLA does not proceed as L1A, but to the extent that the end product is another natural language, most researchers agree that SLA is also UG-constrained (see Tsimpli & Roussou (1991) for the view that UG is available in L2, but parameters are not reset to the L2 values; Liceras (1996a,b) and subsequent works for a similar view that L2 learners make use of UG, but are not sensitive to the functional features that lead to parameter-setting; and Epstein, Flynn & Martohardjono (1996) for the so-called Full Access Hypothesis, where they claim that SLA patterns L1A). By contrasting the *no*-overgeneration phenomenon in SLA with that in L1A, we may be able to discover an aspect where a "mature" UG constrains SLA in the same way that it constrains L1A in its non-mature state.

5.2.1 The general course of acquisition in L1

In order to determine the similarities between L1A and SLA, let us first examine how modifying constructions develop in the child's grammar and what is happening when the overgeneration of *no* occurs. Clancy (1985) offers a comprehensive overview on the general course of acquisition[4]. The first type of modifier that emerges is the genitive construction at around MLU 2.0, as shown in (7) and (8).

(7) Noriko-tyan no
Noriko-Cpl Gen
Noriko's

(1;8, Miyahara 1974)

(8) Too-tyan no
Dad-Cpl Gen
Daddy's

(1;6, Komura 1981)

As discussed in Chapter 1, we assume that the above examples have a null pronominal head that is deictic[5], as shown in (9).

(9) NP no *pro*

When children enter the two-word stage, they start to express possession with overt head nouns, as in (10).

(10) neetyan-no tokei
sister-Cpl-Gen clock
(my) sister's clock

(1;8, Komura 1981)

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[4] The references sited in this section are drawn from Clancy (1985).

[5] Murasugi & Hashimoto (2004) assume that the *no* in these instances is an "independent genitive form" (Cazden 1968). I reject this assumption on two grounds: first, it is dubious that children really have this form because it is not attested in adult grammar, and second, it is perfectly conceivable that children resort to the null-headed construction because of their limitations at the beginning of the two-word stage when they produce [N N] sequences instead of the overt genitive construction.

Before reaching this stage, some children go through a phase of [modifier + head noun] sequences. The modifier can be a noun, as in (11), or an adjective, as in (12):

(11) neetyan buubuu
sister-Cpl car
sister('s) car

(1;11, Clancy 1985)

(12) akai buubuu
red car
red car

(1;11, Clancy 1985)

As we saw in Chapter 1, nominal modification in adult Japanese is the genitive construction [NP *no* NP], so the particle *no* is missing in (11). Around 2;2-2;4, the correct form [NP *no* NP] becomes productive and is extended to express body parts (13) and location (14):

(13) Yot-tyan no otintin
Yot-Cpl Gen penis
Yottyan's penis

(Clancy 1985)

(14) Oosaka no oziityan
Osaka Gen grandpa
Grandpa in Osaka

(Clancy 1985)

Around the same time or even before the overt genitive construction appears (cf. Nagano 1960, Murasugi & Hashimoto 2004), *no* is optionally inserted in the adjectival construction, as shown in (15) and (16).

(15) aoi *(no) buubuu
blue car
blue car

(1;11, Clancy 1985)

(16) kireena *(no) hana
pretty flower
pretty flower

(Iwabuchi & Muraishi 1968)

The inflectional paradigm of verbs is acquired gradually and with errors. At around 2;0, children universally produce the negative form by simply attaching the negative affix to the present form, forming a [X+*nai*] sequence (Clancy 1985, Okubo 1967, and others), as shown in (17).

(17) *taberu-nai (correct form: *tabe-nai*)
eat-Neg
not eat

(2;1, Clancy 1985)

The past negative form, which is formed by the affixation of the negative suffix and the past suffix, is a [Root+Pst+Neg] sequence at this stage, as in (18).

(18) *deki-ta-nai (correct form: *deki-nakat-ta*)
can.do-Pst-Neg
could not do

(2;1, Clancy 1985)

The development of adjectives is slower. As with verbs, children initially add the negative suffix *–nai* to the present form to create the negative form, as in (19).

(19) *atui-nai (correct form: *atu-ku-nai*)
hot-Neg
not hot

Soon after, *-kat-ta*[6] for past tense enters in use. However, at first, it is simply attached to the *–i* ending[7] (Okubo 1967, Clancy 1985), as shown in (20) and (21).

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[6] *-kat* is the continuous form that the adjective should take to enable the affixation of the past tense affix *-ta*.

[7] *-i* can be the conclusive form or the adnominal form.

(20) * samui-kat-ta (correct form: *samu-kat-ta*)
cold-Pst
(it) was cold

(21) *abunai-kat-ta (correct form: *abuna-kat-ta*)
dangerous-Pst
(it) was dangerous

Another common error at this stage is for children to overgeneralize the negative and past tense affixes, *-ku-nai* and *-kat-ta,* to nominal adjectives, when these should be accompanied by the copular verb, as shown in (22) and (23).

(22) * kiree-ku-nai (correct form: *kiree dewa nai*)
pretty-Neg
not pretty

(23) *kiree-kat-ta (correct form: *kiree dat-ta*)
pretty-Pst
(it) was pretty

(2;4, Hatano 1968)

The past negative form *-nakat-ta* develops very late and can take until well after 4 years of age to become productive and correctly used. At first, some children try to use a form they already know, as in (24).

(24) Mother: Nai-ta?
cry-Pst
Did you cry?

Child: Naka-nai.
cry-Neg
I don't cry.

(2;3, Clancy 1985)

In (24), the answer should be "*Naka-nakat-ta"* (cry-Neg-Pst), but the child uses the present negative form instead. Alternatively, as with verbs, children typically produce the [Root+Pst(*-katta*)+Neg(*-nai*)] sequence, when the correct affixation should be [Root+Neg+Pst], as shown in (25) and (26).

(25) *oisi-kat-ta-nai (correct form: *oisiku-na-kat-ta*)
delicious-Pst-Neg
(it) was not delicious

(Clancy 1985, example from Harada p.c.)

(26) * yo-kat-ta-ku-nai (correct form: *yoku-na-kat-ta*)
good-Pst-Neg
(it) was not good

(3;1, Fujiwara 1977)

In sum, the acquisition of adjectives occurs later than that of verbs and the past negative form of both verbs and adjectives emerge later than other inflectional forms. The latter may be due to their morphological complexity. It has also been argued that this pattern of acquisition is related to the frequency of these forms in the children's input. The following table shows the frequency of the four forms (present/past, affirmative/negative) and the number of instances (the figures in parentheses) in a one-hour sample of a mother's speech to her child of 1;6 years (Rispoli 1981):

Table 2. Frequency of verbal and adjectival inflections in one mother's speech to her child at 1;6 years (Rispoli, 1981; via Clancy 1985)

	Verbal inflections			**Adjectival inflections**		
Present	V-*(r)u*	47.4%	(55)	A-*i*	79.1%	(34)
Past	V-*ta*	32.8%	(38)	A-*katta*	14.0%	(6)
Present, neg	V-*nai*	19.0%	(22)	A-*kunai*	7.0%	(3)
Past, neg	V-*nakatta*	0.9%	(1)	A-*kunakatta*	0%	(0)

As the data in table 2 show, adjectives are less frequent than verbs and the past negative form is scarcely used in the mother's spontaneous speech. Thus, considering that linguistic input is crucial for language acquisition, the low frequency of certain forms may be a factor for their late development.

Returning to the acquisition of sentential modifiers, relative clauses emerge around

two to three years of age and become fully productive around age five (Harada 1976). During this time, children overgenerate *no* in relative clauses. (27) is a SU relative and (28) is a DO relative:

(27) kaizyuu-ni nat-ta (*no) onnanoko
monster-Dat become-Pst girl
girl that became a monster

(Harada 1980)

(28) Usa-tyan-ga tabe-ta (*no) ninzin
rabbit-Cpl-Nom eat-Pst carrot
carrot that Rabbit ate

(Harada 1980)

Children also overgenerate *no* in the so-called "gapless relatives":

(29) syuukuriimu tukutten (*no) nioi
cream.puffs is.making smell
smell of (someone) making cream puffs

(30) asoko-no doa-no simat-ta (*no) oto
there-Gen door-Gen close-Pst sound
sound of the door there close

(Murasugi 1991)

Murasugi's (1991) is a representative study on the overgeneration of *no* in L1 acquisition. She carries out three types of elicited production tasks with 62 children (42 from Tokyo, 20 from Toyama) between the ages of 1;8 and 5;8. Of the 42 children from Tokyo, eleven overgenerate *no* in complex NPs. Of them, eight also overgenerate *no* with adjectives, but none do so only with adjectives and not with complex NPs. In addition, she conducts a longitudinal study of spontaneous production data of a girl named Emi between the ages of 2;11 and 4;2. Emi overgenerates *no* with complex NPs and adjectives. At 4;0, the overgeneration with adjectives suddenly stops. At 4;2, it also stops with complex NPs. Together with the cross-sectional data from the elicited production tasks, the general tendency observed

is that not all children overgenerate *no* in complex NPs, and of those who do, some also do so with adjectives, but not the other way around. The overgeneration stops first with adjectives, and then with complex NPs.

5.2.2 Hypotheses on the identity of children's overgenerated 'no'

Let us next consider the identity of the overgenerated *no* and how we can account for its presence. Clancy (1985) attributes it to Slobin's (1985) Operating Principle, stated below:

(31) The Operating Principle (Slobin 1985)
Children prefer to use a single form for a single function.

As we saw above, children start expressing modification with the possessive *no*, as in [NP *no*] and [NP *no* NP]. At this point, they learn that *no* is used for modification and subsequently use it with adjectives, relative clauses, and nominal complements. Thus, according to Clancy (1985), the overgenerated *no* is a genitive marker. Her conclusion agrees with that reached by Harada (1980).

Murasugi (1991) rejects the above hypothesis and claims that the overgenerated *no* is a complementizer. Her argument is based on the remarkable fact that children of the Toyama dialect, where the pronominal *no*[8] and the complementizer *no* are pronounced *ga* instead of *no*, overgenerate *ga.*

Murasugi's (1991, 2000a,b) claim that the overgenerated *no* is a complementizer crucially depends on the assumption that Japanese lacks the relative clause construction and the corresponding constructions are all complex NPs with subordinated IPs (cf. 3.2.3). She proposes that children start with the unmarked option

[8] Murasugi (1991) analyzes the *no* in modifiers without overt head nouns as pronominal:

(i) akai-no
red-Pron.
the red one

(ii) hasitteiru-no
is.running-Pron.
the one (that) is running

for prenominal sentential modifiers, which is CP, and insert *no* as the complementizer (i.e. the "parameter" has the options "CP" and "IP"). Eventually they notice from gapless relatives that the correct option in Japanese is "IP", and this triggers the acquisition of relative clauses[9]. Once these constructions are acquired, *no*-overgeneration ceases to occur. In Murasugi (2000a,b), this same hypothesis is revised under Kayne's (1994) proposal that relative clauses universally have the structure, [D CP]. Thus, children initially assume that complex NPs in Japanese are relative clauses and insert *no* as the complementizer. As in Murasugi (1991), positive evidence tells them that this is not the case and triggers the acquisition of the [D IP] structure.

There are several problems with Murasugi's proposal. First of all, there is strong evidence that relative clauses in Japanese are CP structures (cf. Chapter 3) and this is the analysis that we adopt here. We have also seen from the presence of reconstruction effects that restrictive relative clauses involve A-bar movement of the head noun from the embedded clause. It is a widely-attested fact that children acquire constructions without movement prior to those with movement. For example, Lee (1991) reports that Korean children produce head-internal relatives, which involve no movement, prior to head-external relatives, which do. Then, we would expect Japanese children to first produce sentential modifiers that do not involve movement (i.e. [D IP]) and at a later stage, exhibit *no*-overgeneration, because they acquire the constructions with movement (i.e. [D CP]). But the overgeneration of *no* is observed from an early stage in the acquisition of relative clauses. Furthermore, it is widely observed that language acquisition proceeds from smaller structures to larger ones (cf. the Truncation Hypothesis (Rizzi 1993/1994) in L1A[10] and the Minimal Tree Hypothesis (Vainikka & Young-Scholten 1996) in SLA). It is then doubtful that children should start with a

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[9] In the framework adopted in Murasugi (1991), it is assumed that children have knowledge of the Empty Category Principle (ECP) from early on and insert *no* to ensure that the empty category inside the embedded clause is properly governed. However, positive evidence tells them that the constructions cannot be CPs, since the ECP would be violated if C^0 were left empty. This triggers the resetting of the value to IP.

[10] An alternative view is the Maturation Hypothesis (Borer & Wexler 1987) where it is proposed that children have adult-like phrase structures but their grammar is not adult-like because some abilities develop (i.e. "mature") according to a biological program and are not operative until then.

CP structure and then settle on a smaller IP structure.

More recently, Murasugi & Hashimoto (2004) have suggested that there are two stages in children's overgeneration of *no*. Their argument comes from longitudinal data from a child who produces [A *no* N] sequences prior to the overt genitive construction, [N *no* N]. Following Nagano (1960), they claim that the overgenerated *no* at this very early stage is a pronoun, in particular, an "independent genitive form" (Cazden 1968). Consequently, they suggest that the [A *no* N] sequence is an appositive construction, [$_{NP}$[$_{NP}$ A *no*] NP][11].

However, their analysis is questionable on two grounds. First, as we saw above, children at the beginning of the two-word stage are still quite limited and produce [N N] sequences instead of the overt genitive construction. A structure such as [$_{NP}$[$_{NP}$ A *no*] NP] seems to exceed their processing capacity. Second, Nagano (1960) observes that the *no*-overgeneration at this early stage only occurs with adjectives of degree (e.g. *ookii* "big") and color (e.g. *kiiroi* "yellow"). Murasugi & Hashimoto (2004) confirm this observation and further note that verbs and adjectives with tense inflection become productive after the early stage of *no*-overgeneration is observed: *no*-overgeneration ocurrs at 2;4 and tense inflection becomes productive at 2;7. If this is so, it is possible to suppose that the grammatical category of adjectives at this stage is still underdeveloped and that adjectives are not registered correctly in the lexicon. Recall also that one of the two kinds of adjectives in Japanese called "nominal adjectives" has the lexical features [+V, +N]. It may be, then, that adjectives at this stage are analyzed as nominal elements, which would mean that the overgenerated-*no* is not a pronoun.

5.3 The Clausal-Typing account on the overgeneration of 'no'

In the previous chapter, we made the following proposal on the Clausal Typing of sentential modifiers:

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[11] This construction is not attested in adult Japanese and would be unique to children's grammar.

(32) (Revised) Clausal Typing Hypothesis
The force (or the type) of each clause is the projection of a (typing) value given to Force^0 and it must be visible at PF.

In particular, we proposed that there are at least three strategies for typing adnominal clauses, ordered by the Principle of Economy of Derivation (Chomsky 1989): the most preferred strategy is typing by a verbal affix (i.e. the adnominal form); the next preferred option is typing by a particle (*no* in the case of Japanese); and the least preferred strategy is typing by a free morpheme (i.e. a complementizer or a relative pronoun). The adnominal form and the particle *no* in Japanese are closely related, in the sense that *no* is the secondary option for Clausal Typing when the adnominal form is not available.

Let's suppose then, that *no* is overgenerated in a grammar under development because Clausal Typing cannot be obtained by the first option, namely, by the adnominal form. Recall that the inflectional paradigm develops slowly in L1 acquisition. Adjectives develop later than verbs and the past negative form does not become productive until after 4 years of age. It may be, then, that during the time when the inflectional paradigm is under development, some children resort to the second option permitted in Japanese to type nominal clauses, namely, by the particle *no*. If so, the overgeneration should cease around the time when the inflectional paradigm is complete. At first sight, the facts favor our speculation: by the time *no*-overgeneration ceases, at around 4 years of age, the past negative form, which is the last of the basic forms, is also acquired. Relative clauses also become fully productive around 5 (Harada 1976, cited in Clancy 1985). The delay in the acquisition of the latter may be due to the syntactic operations involved in its derivation (i.e. the acquisition of A-bar movement).

The same hypothesis may apply to the case of SLA. As with the acquisition of the inflectional paradigm in L1A, we may suspect that verbal and adjectival inflection are acquired gradually, and with mistakes. Let us consider how the adnominal form might be acquired under such circumstances. One possibility is that it is acquired when

adjectival clauses, in particular nominal adjectives, are acquired. Recall that nominal adjectives are accompanied by the copula and the adnominal form ends with *-na*, whereas the conclusive form ends with *-da*. The difference in the forms should trigger the acquisition of the adnominal form of nominal adjectives. Alternatively, it may be triggered by the acquisition of particles that select for the adnominal form, such as *-dake* "only" or *-hazu* "supposed to". A third possibility is that it is acquired when sentential modifiers and nominal clauses are acquired. However, this case may be problematic because the adnominal form is not "salient". That is, it is semantically and morpho-phonologically equivalent to the conclusive form (with the exception of the copula). Furthermore, if there are suffixes attached to the root (negation, past tense, modal, and aspectual suffixes), learners must know that it is only the final suffix that carries the adnominal inflection. In addition, in institutional settings, the adnominal form and the conclusive form are taught indistinctively as the "ordinary form" (*futuukei*, "ordinary" because it does not entail any nuances such as politeness) for practical reasons.

Thus, the acquisition of the adnominal form should be triggered by one or a combination of factors and we may suppose that it happens in a gradual way. In the meantime, subordination may be acquired and embedded clauses may be successfully derived[12]. When this happens, the embedded clause would have to satisfy the requirement on Clausal Typing. We may think of two ways to achieve this. First, they may be typed by the adnominal form that is already acquired. The result will be a target-like sentential modifier. Second, they may be typed by the second option, *no*, because the adnominal form is still not operative. This would give rise to an "overgenerated" *no*. Consequently, we would only observe the overgeneration phenomenon in some learners, namely, those who acquire sentential modifiers and nominal clauses before the adnominal form[13]. We would also expect that the

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[12] In general, however, there is initially a tendency to avoid subordinated structures in spontaneous speech although they have already been taught in the JSL (Japanese as a second language) classroom (cf. Fujino 2006). As we will see in the next chapter, nominal modification constructions become productive a certain period of time after they are learned.

[13] Theoretically, we would not expect instances of the third typing, namely, typing by a free morpheme, because Japanese lacks the equivalent of complementizers or relative pronouns.

overgeneration phenomenon would cease when the adnominal form is mastered. The latter may be determined by examining the ending of nominal adjectives and the use of particles that select for the adnominal form.

Finally, let us consider one other question from a typological point of view. According to our hypothesis, the *no*-overgeneration phenomenon in sentential modifiers is closely related to the acquisition of the adnominal form. As we have seen in Chapter 4, Korean is similar to Japanese in having the adnominal form. Since nominal clauses are typed in the same way, it may be that L1 Korean learners overgenerate *no* during a shorter period of time or quantitatively less during their acquisition of sentential modifiers than learners whose L1 is typologically different from Japanese.

However, we expect that this is not the case for two reasons. On the one hand, despite typological proximity, lexical learning of the adnominal form in the target language falls on every L2 learner. Incidently, however, the adnominal form virtually does not exist as a different form in modern Japanese, so there is very little lexical learning to do. On the other hand, according to Cheng (1991), the requirement on Clausal Typing is governed by a universal principle of economy (viz. Principle of Economy of Derivation (Chomsky 1989)). Hence, independently of the L1, the principle should constrain every learner to use the most "economic" option, which is the adnominal form. When this form is not available, the principle should lead the learner to use the second most economic option, which is the particle *no*. In the next chapter (6.2), we will analyze corpus data of L1 Korean and L1 English JSL learners and come back to this point.

5.4 Summary

In this chapter, we have reviewed some of the previous studies that have been carried out on the acquisition of Japanese modifying constructions in both first and second language acquisition. Most studies in SLA have sought to find out whether the NPAH can predict the order in which different types of relative clauses are acquired. The lack of coherency in the results has suggested that Japanese relative clauses are in fact

not “relative clauses” but simple modifying constructions that are adjoined to the head noun. In passing, it has been noted that learners sometimes overgenerate *no* between the sentential modifier and the head noun. No principled account has been given in this respect, but the phenomenon is intriguing in that it is observed across sentential modifiers in general, and that it is observed among L2 learners of typologically different L1s.

Studies on the L1A of modifying constructions date back to the 1960’s and there are rich data on the general course of acquisition. Curiously enough, it has also been observed that some children overgenerate *no* in sentential modifiers during a certain period of time, and various proposals have been made to account for this fact. In particular, we have presented Clancy’s (1985) proposal that the overgenerated *no* is a genitive marker, and Murasugi’s (1991, 2000a,b) hypothesis that it is a complementizer. However, both accounts have been confronted with counter-evidence and the *no*-overgeneration phenomenon remains unexplained.

In an attempt to provide a comprehensive account of the *no*-overgeration phenomenon, we have elaborated a hypothesis based on the requirement of Clausal Typing, which we presented in Chapter 4. In essence, we have suggested that children insert *no* in sentential modifiers because they fail to type the embedded clause by the adnominal form. At first glance, our hypothesis corresponds with other characteristics that are observed at this stage of acquisition.

By the same token, we have proposed that the *no*-overgeneration phenomenon in SLA can be accounted for by the Clausal Typing requirement. That is, the adnominal form is acquired gradually, and during the time that it is under development, *no* is overgenerated in sentential modifiers because Clausal Typing of the embedded clause fails to be achieved by the adnominal form, which is the most economic and preferred option. If our hypothesis is on the right track, we predict that the phenomenon would cease to occur when the adnominal form is fully acquired, and that there would be no difference in the manifestation of the phenomenon among typologically different L1s.

In Chapter 6, we will present two studies: a corpus analysis and an experimental study using an elicited production task. The corpus consists of Oral Proficiency Interview (OPI) data by L1 Korean and L1 English learners at three different levels of proficiency. We will examine the development of the adnominal form and whether the *no*-overgeneration phenomenon coincides with it. We will also compare the pattern of acquisition of sentential modifiers between L1 Korean and L1 English learners. In the experimental study, we will study how L1 Spanish learners at a given level of proficiency cope with different types of sentential modifiers and how the *no*-overgeneration phenomenon is manifested in an experimental setting.

Chapter 6 The Studies

6.1 Preview

The studies presented in this chapter have two objectives: first, to present a general picture of the acquisition of Japanese sentential modifiers in SLA and second, to show how the *no*-overgeneration phenomenon (cf. Chapter 5) is manifested in SLA. In relation to the latter, we would also like to examine how the phenomenon is exhibited by learners of typologically different L1s.

Of the various types of "sentential modifiers", we will deal with the ones analyzed in the previous chapters, namely, adjectival clauses, nominal complements, gapless relatives, adverbial relatives, and restricted relative clauses. As discussed in Chapter 2, we assume that Japanese adjectival clauses have CP-structures and are to some extent similar to English relative clauses. As for gapless relatives (cf. Chapter 3), we assume them to be a subtype of nominal complements because, like nominal complements, they do not have a gap inside the embedded clause and they serve to complement or specify the head noun, not to modify it. With respect to restrictive relative clauses (cf. Chapter 3), we have compared two conflicting views, namely, the base-generation analysis and the raising analysis, and have supported the latter. Thus, we assume them to be CP-structures that are derived by A-bar movement of the head noun. Syntactically, restrictive relative clauses are more complex than other sentential modifiers because they involve movement.

In all the above constructions, the embedded predicate generally appears in the adnominal form. In Chapter 4, we contrasted its use in Classical Japanese and in Modern Japanese and observed that the adnominal form in Modern Japanese has been reduced both functionally and morpho-phonologically and that the particle *no* plays a somewhat complementary role. Applying Cheng's (1991) Clausal Typing Hypothesis, we have proposed that the adnominal form serves to type the clause as "nominal". In particular, we have proposed that there are three typing strategies, ordered by the principle of economy: (i) typing by a verbal affix (i.e. the adnominal form); (ii) typing

by a particle (i.e. *no* in the case of Japanese); (iii) typing by a free morpheme (i.e. a complementizer or a relative pronoun). Thus, in Japanese, the adnominal form and the particle *no* are closely related in the sense that *no* is the secondary option for Clausal Typing when the adnominal form is not available.

Regarding the acquisition of Japanese sentential modifiers in SLA, previous studies have focused on the validity of the NPAH (Noun Phrase Accessibility Hierarchy; Keenan & Comrie 1977) and to the best of our knowledge, there is no literature on the general course of SLA of Japanese sentential modifiers yet. It has also been noted that learners sometimes insert a *no* between the embedded clause and the head noun, but the phenomenon has not been studied in detail and no principled account has been given.

As presented in Chapter 5, a very similar phenomenon to L2 *no*-overgeneration has been observed in L1A. It has been documented extensively (cf. Okubo 1967, Clancy 1985, Murasugi 1991), along with the general course of acquisition. The phenomenon is optionally observed around two to four years of age. Interestingly, its occurrence coincides with the gradual acquisition of inflectional morphology.

Given the Clausal Typing Hypothesis on the one hand, and the developing state of inflectional morphology on the other, we formulated the following hypothesis on the *no*-overgeneration phenomenon:

(1) *No* is overgenerated in sentential modifiers because Clausal Typing of the embedded clause fails to be achieved by the adnominal form.

We have proposed that when children produce sentential modifiers while they have still not mastered inflectional morphology, they cannot type the embedded clause correctly by the most preferred option, namely, by the adnominal form. Since the first option is unavailable, they resort to the second option, which is typing by the particle *no*. If our hypothesis is correct, what we observe as a superfluous *no* is actually a legitimate option in Japanese.

We have speculated that the same hypothesis may account for the *no*-overgeneration phenomenon in SLA. That is, L2 learners overgenerate *no* in sentential modifiers because they have not mastered the adnominal form and fail to type the embedded clause as "nominal" by it. Following the principle of economy, they resort to the next preferred option, which is to insert *no*. The least preferred option, namely, typing the clause by a free morpheme (i.e. complementizer or relative pronoun) would not be available because Japanese lacks free morphemes in this category.

In order to examine the validity of our proposal, it is necessary to understand how much inflectional morphology is mastered when sentential modifiers begin to appear and when the *no*-overgeneration phenomenon is observed. In our first study, we will analyze corpus data that consists of OPIs[1] carried out with L1 Korean and L1 English speakers at three different levels of proficiency. We will also contrast the production of L1 Korean speakers with that of L1 English speakers to see how typological difference may affect the course of acquisition and the manifestation of the *no*-overgeneration phenomenon.

In our second study, we will present experimental data from an elicited production task completed by L1 Spanish speakers. The purpose is to examine the manifestation of the *no*-overgeneration phenomenon with different types of sentential modifiers and different inflectional forms at their levels of proficiency, which ranged between beginner and low-intermediate (see 6.3 for details).

6.2 Study 1: Corpus analysis

For the first study, we used the KY corpus[2] (Kamada 1999, 2006). This corpus

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[1] OPI stands for Oral Proficiency Interview. See 6.2 for details.

[2] The KY corpus was created as part of a research project on the SLA of Japanese, funded by the national scientific research fund from 1996 to 1998. It consists of OPIs that were carried out prior to the project by qualified interviewers. The researchers collected the cassette tapes from the interviewers and transcribed the audio data. "Version 1.0" is currently available to the public and can be obtained upon request to the authors, Osamu Kamada and Hiroyuki Yamauchi.

contains OPI[3] data from a total of 90 JSL[4] speakers who live in Japan: L1 English (N=30), L1 Korean (N=30), L1 Chinese (N=30). Each group consists of five novice, ten intermediate, ten advanced, and five super-advanced[5] speakers. This classification is based on the level of achievement of the language tasks given during the OPI.

For the present study, we analyzed the data of L1 English and L1 Korean speakers and 25 files were examined respectively (five novice, ten intermediate, ten advanced)[6]. The selection of languages was based on the fact that English is typologically different from Japanese and Korean is typologically similar. Details on the speakers such as their age, whether they knew other languages, how they learned Japanese, or how long they had been living in Japan were not provided in the corpus.

6.2.1 Details of the classification

In order to observe the development of inflectional morphology in relation to the development of sentential modifiers, we tagged[7] the instances of verbs, adjectives, and their suffixes according to the type of ending, tense, and presence of negation:

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[3] The Oral Proficiency Interview (OPI) is a standardized procedure established by ACTFL (The American Council on the Teaching of Foreign Languages), which measures a person's speaking ability through specific language tasks. The interviews are carried out by trained interviewers and their duration does not exceed 30 minutes (cf. ACTFL Proficiency Guidelines 1999).

[4] JSL stands for Japanese as a second language.

[5] The terms "novice", "intermediate", "advanced", and "super-advanced" are the original names used in the KY corpus. It is not clear why there are only five files in the "novice" and "super-advanced" levels.

[6] We decided to include novice-level files despite the fact that there was half the number of files than in the other levels, in order to obtain a clearer picture of the acquisition process.

[7] The classification presented here was designed for the present study and does not adhere to criteria of other corpus analyses.

(2) Ending[8]

a. Suppositional form
b. Continuative form
c. Conclusive form
d. Adnominal form
e. Conditional form
f. Imperative form
g. Volitive form

Tense

a. Present
b. Past

Negation

a. Negative

The suppositional form is the form to which negative affixes *-nai* and *-zu* attach. *-Nai* is in fact adjectival, in the sense that its inflectional pattern is that of an adjective. In theory, the negative affix should be classified as an adjective, along with other adjectival suffixes such as *-tai* "want to" or *-yasui/-nikui* "easy to/difficult to", but it was classified in the category of verbs. Here are some examples:

(3) a. Kyoo-wa gakkoo-e ika-**nai**-desu.
today-Top school-Loc go.Sup-Neg.Cnc-Pol.Cnc
Today, (I) will not go to school.

b. Kyoo-wa gakkoo-e ika-**nakat**-ta.
today-Top school-Loc go.Sup-Neg.Cnt-Pst.Cnc
Today, (I) did not go to school.

c. [Gakkoo-e ika-**nai**] hi-wa uti-ni iru.
school-Loc go.Sup-Neg.Adn day-Top home-Loc be
The days that I do not go to school, I am at home.

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[8] These forms constitute the inflectional paradigm of verbs and adjectives in Japanese. Negative suffixes attach to the "suppositional form", verbal suffixes attach to the "continuative form", the "conclusive form" normally marks the end of the sentence, the "adnominal form", marks the clause as nominal, the "conditional form" is often used to express hypothetical conditions, and the "imperative form" is a strong form of the imperative. The volitive form is normally not included in the inflectional paradigm, but it is an independent form used to express one's desire or a proposal to another (e.g. *ikou* "let's go", *yomou* "let's read").

In all three examples, the verb *ik-* "go" is in the suppositional form, *ika*, in order to allow the affixation of the negative suffix. In (3a), we have the negative affix *-nai* in the conclusive form, followed by the politeness affix *-desu*. Such an instance was tagged as a verb in negative conclusive form. In (3b), *-nai* is in the continuative form and the past tense affix *-ta* follows in the conclusive form. Such an instance was tagged as a verb in past negative conclusive form. In (3c), *-nai* is in the adnominal form. Such an instance was tagged as a verb in negative adnominal form.

-Nai also forms part of constructions such as those of obligation (4), polite negative imperative (5), and negative necessity (6):

(4) Kyoo-wa gakkoo-e ika-**nakereba-nara-nai**.
today-Top school-Loc go.Sup-Neg.Cnd-become.Sup-Neg.Cnc
Today, I must go to school.

(5) Kyoo-wa gakkoo-e ika-**naide-kudasai**.
today-Top school-Loc go.Sup-Neg.Cnt-please
Today, please do not go to school.

(6) Kyoo-wa gakkoo-e ika-**nakute-mo-ii**.
today-Top school-Loc go.Sup-Neg.Cnt-Emp-good
Today, I need not go to school.

(4) was tagged as an instance of a verb in negative conditional form, and (5) and (6) were tagged as verbs in negative continuative forms.

The continuative form was further tagged when the following suffixes were attached:

(7) a. *-masu*
b. *-te*
c. *-ta*
d. other

The first suffix, *-masu*, is roughly the counterpart of *-desu* for adjectives. It expresses politeness and is used in formal speech. It was marked because verbs are typically first taught with the *-masu* ending in the JSL classroom and OPI's are normally

carried out in courteous language. It also forms part of fixed expressions such as that of invitation, as shown in (8) and (9). Such cases of *-masu* were marked as non-finite instances.

(8) Issyo-ni iki-**masen-ka?**
together-Obl go.Cnt-masu.Neg-Int
Shall we go together?

(9) Issyo-ni iki-**masyoo!**
together-Obl go.Cnt-masu.Vol
Let's go together!

On the other hand, there are two forms of negation in polite speech:

(10) a. Kyoo-wa gakkoo-e ika-**nai-desu**.
today-Top school-Loc go.Sup-Neg-Pol

b. Kyoo-wa gakkoo-e iki-**masen**.
today-Top school-Loc go.Sup-Pol.Neg
Today, (I) do not go to school.

In (10a), the politeness suffix *-desu* is attached to the adjectival negative suffix *-nai*. In (10b), the politeness suffix *-masu* is in the negative form. For the analysis, the former was tagged as the present negative conclusive form with politeness and the latter was tagged as the present negative form of the suffix *-masu*.

The second suffix, *-te*, has many functions. It forms a present participle, as in (11), it is used to coordinate verbs, as in (12), and it is used in a number of other constructions, as shown in (13-15):

(11) Kare-wa ima hanasi**te**-iru.
he-Top now talking-is
He is talking now.

(12) Densya-ni not**te** suwarimasita.
train-on get.on sat.down
I got on the train and sat down.

(13) Koko-ni namae-o kai**te-kudasai**.
here-Loc name-Acc write-please
Please write your name here.

(14) Koko-ni namae-o kai**te-wa-ikemasen**.
here-Loc name-Acc write-may.not
You may not write your name here.

(15) Koko-ni namae-o kai**te-simai-masita**.
here-Loc name-Acc write-have.done-Pol.Pst
(I) have (accidently/regrettably) written my name here.

[V-*te*+*kudasai*] in (13) is a polite imperative and [V-*te*+*wa-ikemasen*] in (14) is a polite prohibition. [V-*te*+*simau*] in (15) conveys regret, and there are many other modal constructions that are formed by the "*te*-form" (viz. [V-*te*]) and an auxiliary verb. It is a non-finite form and very frequent in normal speech.

The third suffix, *-ta*, is basically the past tense and perfective suffix. It also has two non-finite uses. First, when it is followed by the suffix *-ra,* it expresses conditional mood, as shown in (16) and (17). Second, together with the suffix *-ri*, it participates in a construction for enlisting a non-exhaustive list of actions, as depicted in (18)[9]:

(16) Zikan-ga at**ta-ra** tegami-o kakoo.
time-Nom have-Cond letter-Acc write.Vol
If (I) have time, I will write a letter.

(17) Zyuu-zi-ni nat**ta-ra** dekakeyoo.
ten-o'clock-Obl become-Cond go.out.Vol
When it is ten o'clock, we will go out.

(18) Maiban terebi-o mi**ta-ri**, hon-o yon**da-ri** suru.
every.night TV-Acc watch book-Acc read do.
Every night, I watch TV and read books (among other things).

Finally, "other" in (7d) included the following constructions and the verb was tagged as "non-finite":

---

[9] *-Da* is an allomorph of *-ta*. The *te*-form and the *ta*-form (viz. [V-*ta*]) involve phonological alternations depending on the preceding mora:

(i) *ar-u* "have, be": *ar-i-masu* (polite form) / *a**t**-te* (*te*-form) / *a**t**-ta* (*ta*-form)
(ii) *yom-u* "read": *yom-i-masu* (polite form) / *yo**n**-**d**e* (*te*-form) / *yo**n**-**d**a* (*ta*-form)

(19) Imperative [V+*nasai*]
Hayaku tabe-**nasai**.
quickly eat.Cnt-Imp
Eat quickly.

(20) V_2 *while* V_1 [V_1+*nagara*]
Terebi-o mi-**nagara** gohan-o tabeta.
TV-Acc watch.Cnt-while meal-Acc ate
(I) ate (my) meal while (I) watched TV.

(21) *want to* V [V+*tai*]
Uti-ni kaeri-**tai**.
home-Loc return.Cnt-want
(I) want to return home.

(22) *easy to/hard to* V [V+*yasui/nikui*]
Kono hon-wa yomi-**yasui/nikui**.
this book-Top read.Cnt-easy/hard
This book is easy/hard to read.

(23) *go/come to* V [V+*ni iku/kuru*]
Resutoran-e tabe-**ni itta**.
restaurant-Loc eat.Cnt-to went
(I) went to eat at a restaurant.

There were also constructions in which a suffix was attached directly to the root. In such cases, the adjective or verb was tagged as "root":

(24) Supiido-ga **haya**-sugite, kaabu-o ...
speed-Nom fast.Root-too.Cnt curve-Acc
The speed (was) too fast and the curve...

When the same word was repeated, only the last one was tagged. When a pronounced word was erroneous and its meaning could not be made out, it was excluded from the count. The following fixed expressions were also excluded:

(25) a. (Yorosiku) onegai simasu/itasimasu.
Nice to meet you.

b. Arigatoo gozaimasu.
Thank you very much.

c. Situree simasu/itasimasu.
Excuse me.

d. Tondemonai.
Not at all.

e. S to moosimasu.
My name is S.

In the case of adjectives, adverbial forms, such as in (26), and nominalized forms, such as in (27) were also included in the count:

(26) Kyoo-wa **osoku** gakkoo-ni it-ta.
Today-Top early school-Loc go-Pst
Today (I) went to school early.

(27) **Nagasa**-wa taisetu desu.
length-Top important is.
The length is important.

Sentential modifiers were classified according to the following:

(28) Adjectives

a. Adjectival clauses with overt head nouns

b. Adjectival clauses without overt head nouns (ending with *no*)

c. -*noda* construction

Verbs

d. Restrictive relative clauses

e. Appositive relative clauses

f. Adverbial relative clauses

g. Nominal complements

h. Nominalized clauses (ending with *no*)

i. -*noda* construction

Adverbial relatives included the following types[10]:

(29) *Time*

a. [Migi-e magaru] **toki**, ...
right-Loc turn time
=When (you) turn to the right, ...

b. [Kekkon-suru] **mae**-ni ...
marriage-do before-Obl
=Before (you) get married, ...

(30) *Place*

a. [Naretei-nai] **tokoro**-e iku ...
be.used.to-Neg place-Loc go
...go to a place that (you) are not used to

b. [Jasco-e iku] **totyuu**-ni ...
Jasco-Loc go way-on
=On the way that (you) go to Jasco ...

(31) *Reason*

a. [furareru] **gen'in**
be.dumped cause
the cause that (you) are dumped

b. [kita] **riyuu**
came reason
the reason that (you) came

(32) *Circumstance*

a. [ira-nai] **baai**
need-Neg case
(in) the case that (you) do not need (it)

b. [benkyoositeiru] **tokoro**
be.studying place
=(be in the state of) studying

(33) *Manner, comparison*

a. [booru-ni atara-nai] **yooni** ...
ball-Obl hit-Neg so.that
so that (it) will not hit the ball ...

---

[10] As Japanese is a *pro*-drop language, the examples do not have an explicit subject. For ease of exposition, I have taken the liberty of interpreting them as "you".

b. [taberu koto-ga dekiru] **gurai**-ni
eat (matter)-Nom can degree-Obl
to the degree that (I) can eat ...

Gapless relatives were included in nominal complements on the basis that they do not involve any movement (cf. Chapter 3):

(34) [Suriiranka-e iku] kikai
Sri Langa-Loc go chance
chance to go to Sri Lanka

(35) [nihongo-o osieru] sigoto
Japanese-Acc teach job
job of teaching Japanese

Finally, in spoken Japanese, there is a focus construction called the "*no da* construction". Traditionally, it is analyzed as a clause that is headed by *no*, which is a nominalizer, and followed by the copula *da*, or its polite variant, *desu* (cf. Kuno 1973), as shown in (36) and (37):

(36) [Kekkoo tanosi-katta] **n(o) desu**.
quite fun-Pst be
It was quite fun.

(37) [Pan dake tabeta] **n(o) desu**.
bread only ate be
(I) only ate bread.

It is very frequently used and denotes curiosity, explanation, or reasoning, depending on the context. In colloquial speech, /no/ is often contracted to /n/, and the copula can be omitted. As can be expected from its nominalizing character, the embedded predicate in the *no da* construction takes the adnominal form. Thus, instances of this construction were included in the analysis.

There are also variants of the *no da* construction. For example, -*node* and -*noni*, which function more as conjunctions than nominalizers, also attach to the adnominal form:

(38) Koko-wa sizuka-**na** *node* benkyoo dekiru.
here-Top quiet-Adn because study can
Here (I) can study because (it) is quiet.

(39) Kanozyo-wa kirei-**na** *noni* seikaku-ga warui.
she-Top pretty-Adn despite character-Nom bad
Although she is pretty, (her) character is bad.

However, they can also attach to the conclusive form if the politeness suffix is used:

(40) Sigoto-ga ari-**masu** *node* situreisimasu.
work-Nom have-Pol because excuse.me
Excuse me because I have work.

(41) Samuku nari-**masita** *noni*, kodomo-wa hansode-de sugosite
cold become-Pol.Pst despite child-Top short.sleeves-Obl passing
ori-masu.
be-Pol
Although (it) has become cold, (my) child is passing (time) in short sleeves.

Thus, although the embedded predicates could be counted as instances of the adnominal form (as in (38) and (39)), these two variants were excluded from the analysis.

6.2.2 Development of verbs and adjectives

First, we looked at the overall development of verbs and adjectives. The following chart shows the number of finite verbs and adjectives that were found in each file:

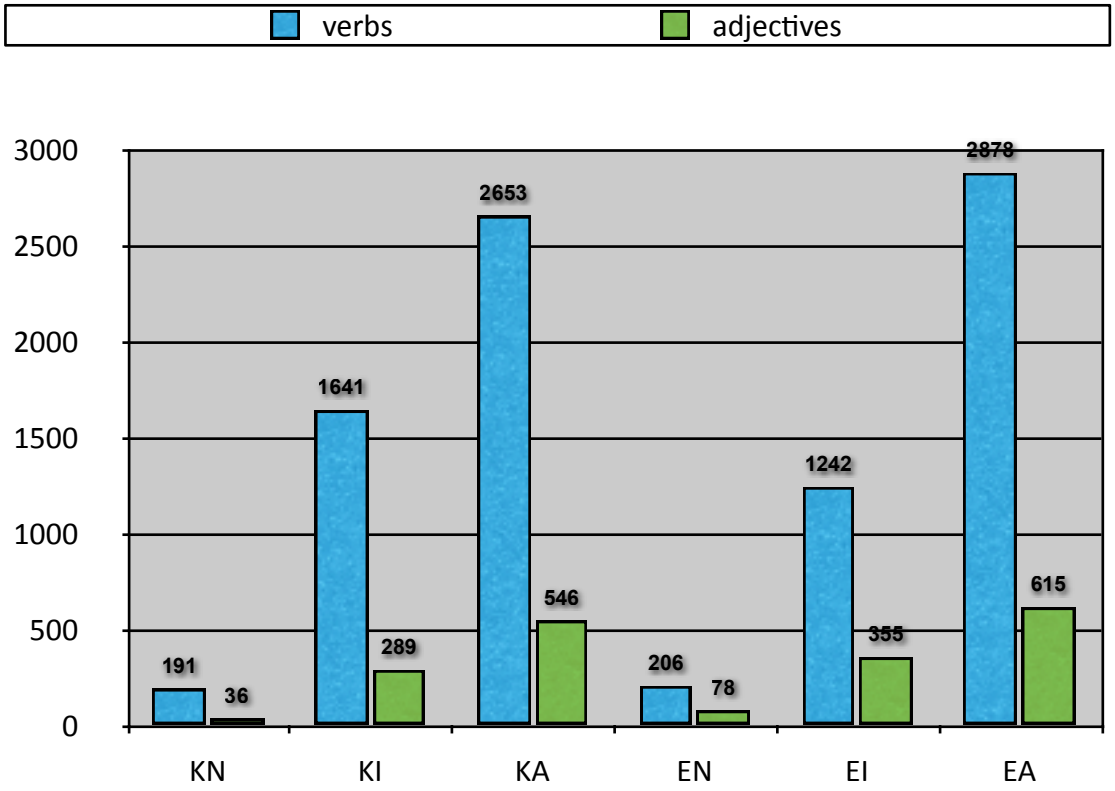

Chart 1. Number of finite verbs and adjectives[11]

There are five speakers in N(ovice)-level and ten speakers in I(ntermediate) and A(dvanced)-levels respectively. We observe that in all the groups there are more instances of verbs than adjectives. The number of utterances also increases largely with proficiency. When we double the figures in N-level to make the comparison visually easier, we see that there is a big leap between N-level and I-level. The number of verbs increases fourfold to sixfold and that of adjectives, fourfold to fivefold. The sudden increase in productivity is indicative of an important development at this phase[12]. There is also a leap from I-level to A-level, but it is smaller than the first one. On a *t*-test of two samples with a significant level of 0.05,

[11] KN: L1 Korean novice-level; KI: L1 Korean intermediate-level; KA: L1 Korean advanced-level; EN: L1 English novice-level; EI: L1 English intermediate-level; EA: L1 English advanced-level.

[12] We will come back to the difference between the production of verbs in EI and KI.

the values[13] showed that there is no significant difference between the production of L1 Korean speakers and L1 English speakers[14]. That is, in accordance with our prediction, the acquisition of Japanese verbs and adjectives seems to be equally difficult for L1 Korean learners and L1 English learners, despite the fact that Korean is typologically similar to Japanese while English is not.

Next, we looked at the distribution of the polite form, the conclusive form, and the adnominal form. We wanted to know how the adnominal form develops in relation to the others and, as speculated in 5.3, if this form is difficult for JSL learners because it does not stand out by itself. We contrasted the development of the adnominal form with that of the polite form and the conclusive form. As mentioned in the previous section, the polite form is the first one to be learned and would probably be the form that best shows the learners' productivity of verbs and adjectives. The conclusive form is used instead of the polite form in informal and written speech (i.e. in contexts where "politeness" does not need to be marked overtly). As discussed in Chapter 4, it is morpho-phonologically identical to the adnominal form in Modern Japanese except for the copula.

Chart 2 shows the distribution of the three forms in verbs and adjectives at N-level:

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[13] The null hypothesis, that the average number of verbs (and adjectives) in KN and that in EN are the same, was rejected if $t_0 > t_{0.025,8} = 2.306$ or $t_0 > t_{0.025,8} = -2.306$. The statistic value obtained was $t = -0.123$. Likewise, the null hypothesis that the average number of verbs (and adjectives) are the same in KI and EI, and in KA and EA, was rejected if $t_0 > t_{0.025,18} = 2.1009$ or $t_0 > t_{0.025,18} = -2.1009$, respectively. The statistic value obtained for I-level was $t = 1.278$ and that for A-level was $t = -0.581$. Thus, the null hypothesis could not be rejected in either of the cases.

[14] The difference between the production of adjectives in EN and KN may be due to the fact that of the 78 samples in EN, 43 are produced by one speaker, while the others produced between eight and 18 samples.

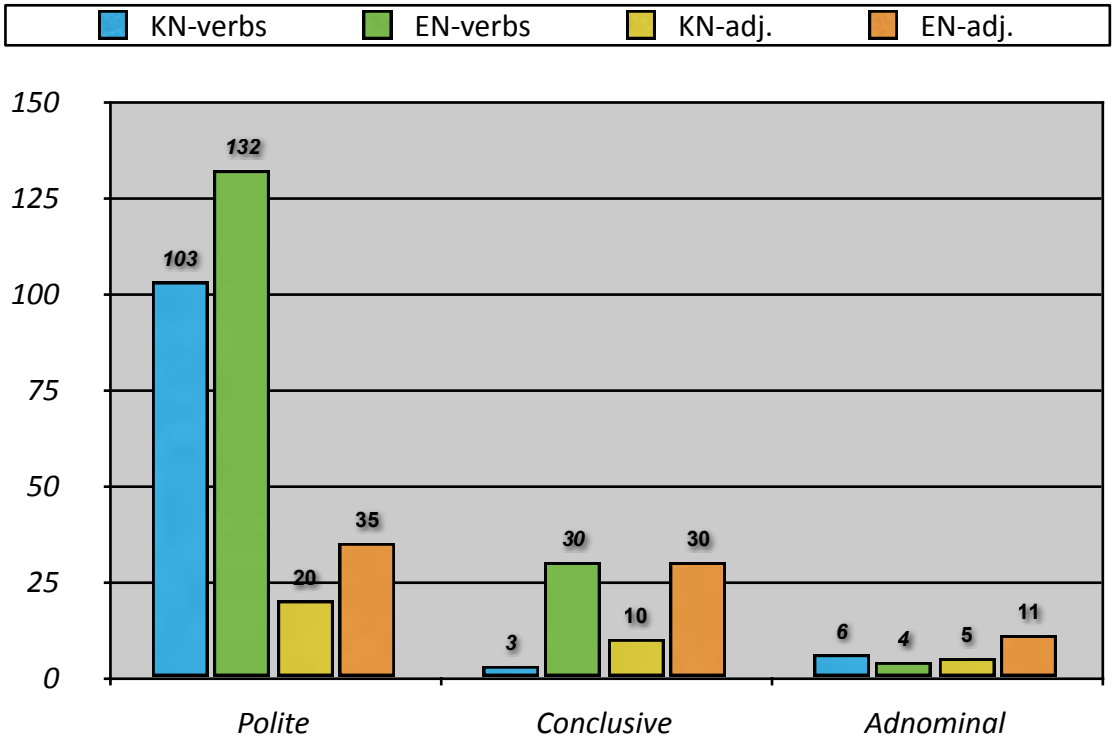

Chart 2. Distribution of different forms at N-level[15]

We observe that the majority of verbs are used in the polite form. With verbs, the adnominal form is scarce at this level. In EN, the conclusive form is also used to some extent. As for adjectives, the most common form is also the polite form, but the other forms are also used to some degree. However, when we take a closer look at the data, we find that 19 of the 30 samples of verbs in the conclusive form were produced by one speaker, ENH01. The same speaker produced 18 of the 30 samples of adjectives in the conclusive form and six of the eleven samples of adjectives in the adnominal form. Apparently, in spite of the fact that the speaker was assigned to the N-level, she/ he seems to be more advanced with respect to verbs and adjectives than the other four speakers in this group.

The next chart shows the use of inflectional forms at N-level.

[15] KN-verbs: finite verbs in KN; EN-verbs: finite verbs in EN; KN-adj.: adjectives in KN; EN-adj.: adjectives in EN.

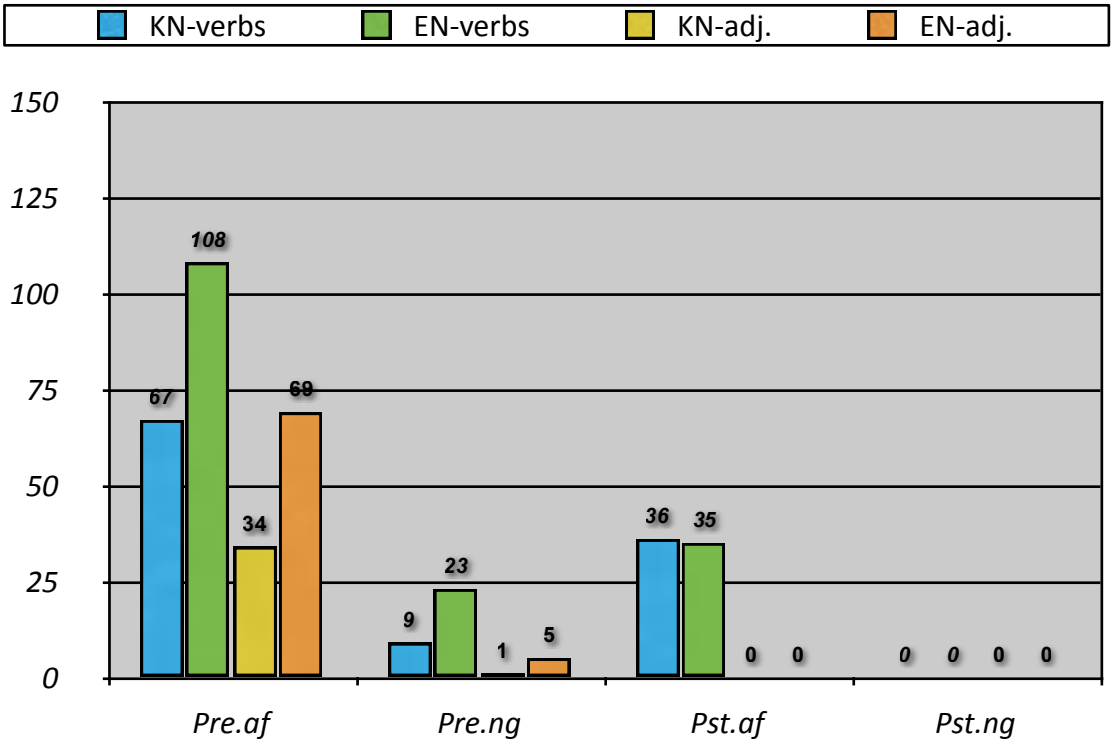

Chart 3. Use of different inflectional forms at N-level

We see that inflectional forms at this level are concentrated to the present affirmative form for both language groups and verbs and adjectives. We may say that this is the "basic" form, in the sense that it does not carry inflectional affixes such as the past tense suffix or the negative suffix. With verbs, the present negative form and the past affirmative form, which contain one inflectional affix, are observed to some degree, but the past negative form, which involves the affixation of two suffixes, is not observed. With respect to adjectives, most of them are used in the present affirmative form.

Inflectional errors are very few and the most common one is in the formation of the *te*- form[16], which is not included in the above data because it is non-finite. (42a) shows an example of the error with a verb and (42b), with an adjective (the erroneous form is underlined and the correct form is indicated in italics, in parenthesis):

[16] The *te*-form (cf. examples (11)-(15)) involves many irregular phonological alternations and is generally very difficult for the JSL learner.

(42) a. *Itumo suupaa -de, -ni, ikimasu, to (*itte*) gohan kaimasu.
always supermarket-Loc -Loc go and meal buy
(I) always go to the supermarket and buy (my) meal.

(ENH01)

b. *Tiisai to (*tiisakute*) hiroi kuni desu.
small and vast country is
(It) is a small and vast country.

(ENH01)

The conjunctive *to* "and" in both examples joins nouns and cannot be used to join verbs or adjectives. Instead, the *te*-form should be used.

Summarizing the production of verbs and adjectives at N-level, the majority of verbs are used in the polite form and the conclusive and adnominal forms are rare. Adjectives are produced less than verbs and the majority are also used in the polite form. In terms of inflectional forms, verbs are mainly used in the present affirmative form, but the present negative form and the past affirmative form, which involve one suffix, are also observed. In contrast, adjectives are almost always used in the present affirmative form. We may say that inflectional morphology is under development at this level and that sentential modifying constructions have not yet reached a productive state.

Next, let us next look at I-level. There are ten subjects in each group. The following chart shows the distribution of the polite form, the conclusive form, and the adnominal form in verbs and adjectives:

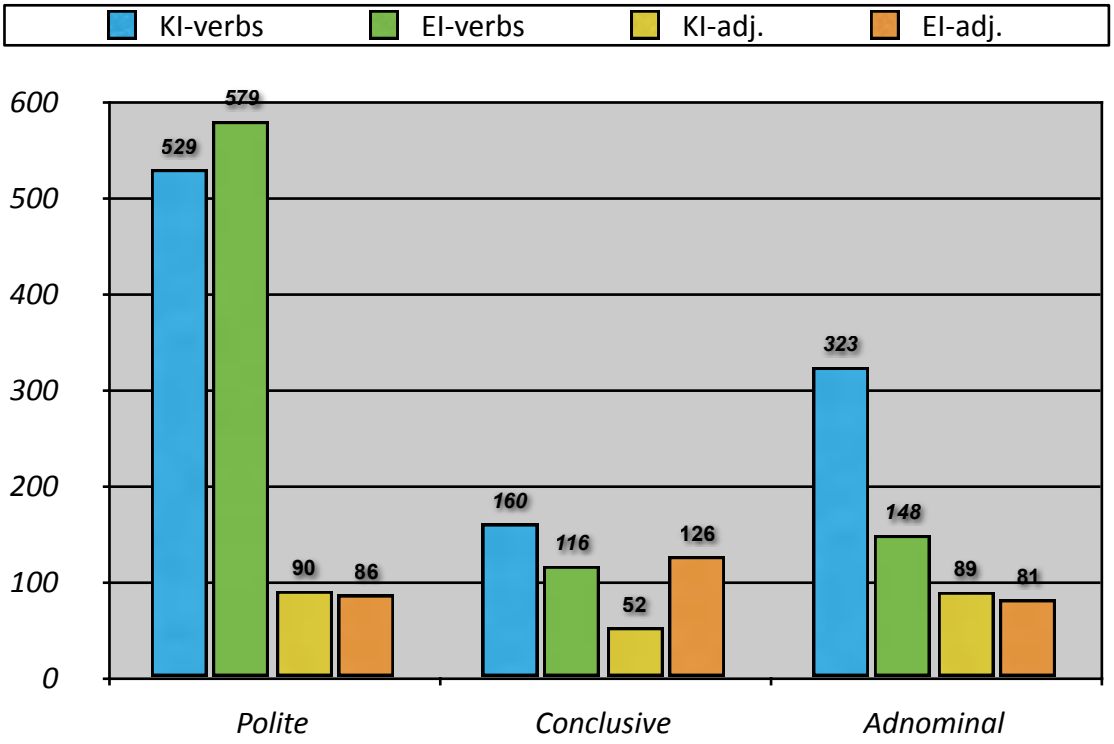

Chart 4. Distribution of different forms at I-level

We see that for both groups, KI and EI, all three forms are now productive. We may say that by I-level, the conclusive and adnominal forms are acquired. With regard to our hypothesis that the acquisition of the adnominal form is difficult because it is not "salient", we see that in both groups, the adnominal form of verbs is produced more than the conclusive form. Thus, despite the different contexts in which these forms are used, the data shows that our prediction is not borne out.

At this level, other inflectional forms such as the volitive form and the conditional form are also observed:

Table 3. Production of volitive and conditional forms at I-level

	Volitive	**Conditional (affirmative)**	**Conditional (negative)**
KI	7 (0.43%)	13 (0.79%)	9 (0.55%)
EI	5 (0.40%)	2 (0.16%)	6 (0.48%)

The volitive form is often used to express one's desire[17] and it is embedded under such verbs as *omou* "think" or *kangaeru* "think, consider". There are seven samples in KI (0.43% of the total production of verbs) and five samples in EI (0.40% of the total production of verbs). Here are two examples:

(43) Aikidoo saakuru-ni **hair-oo** to omoi-masu.
aikido circle-Loc join-Vol that think-Pol
I think that I (want to) join an aikido circle

(EIM05)

(44) ... moosikomi-ni issyo-ni **ik-oo** ka to, ...
inscription-Obl together-Obl go-Vol Int that
... that I (want to) go to the inscription together (with someone)

(KIH01)

The conditional form ends in *-(e)ba*. Compared to the other conditional form [V+*ta*] (cf. (16), (17)), *-(e)ba* expresses conditions that are more hypothetical. (45) is an example in the affirmative form and (46) is an example of the negative form:

(45) Doo **sur-eba** ii n(o) desu-ka.
how do-Cond good be-Int
If (I) do how is good? (=What should I do?)

(KIM04)

(46) Mainichi ika**-nakereba** narimasen.
everyday go-Cond.Neg become-Pol.Neg
I must go everyday.

(EIL04)

In (46), the negative conditional form is used in an expression of obligation *-nakereba narimasen* (cf. example (4)). This was very frequent in the data. There are thirteen samples in KI and two samples in EI (0.79% and 0.16% of the total production of

[17] As briefly mentioned in Footnote 8, the volitive form is used to express proposals when the subject is first person plural. The equivalent in English would be "Let's ...":

(i) Aikidoo saakuru-ni **hair-oo**
aikido circle-Loc join-Vol
Let's join an aikido circle

verbs, respectively) of the affirmative conditional form, and there are nine samples in KI and six samples in EI (0.55% and 0.48% of the total production of verbs, respectively) of the negative conditional form.

The next chart shows the use of inflectional forms at I-level.

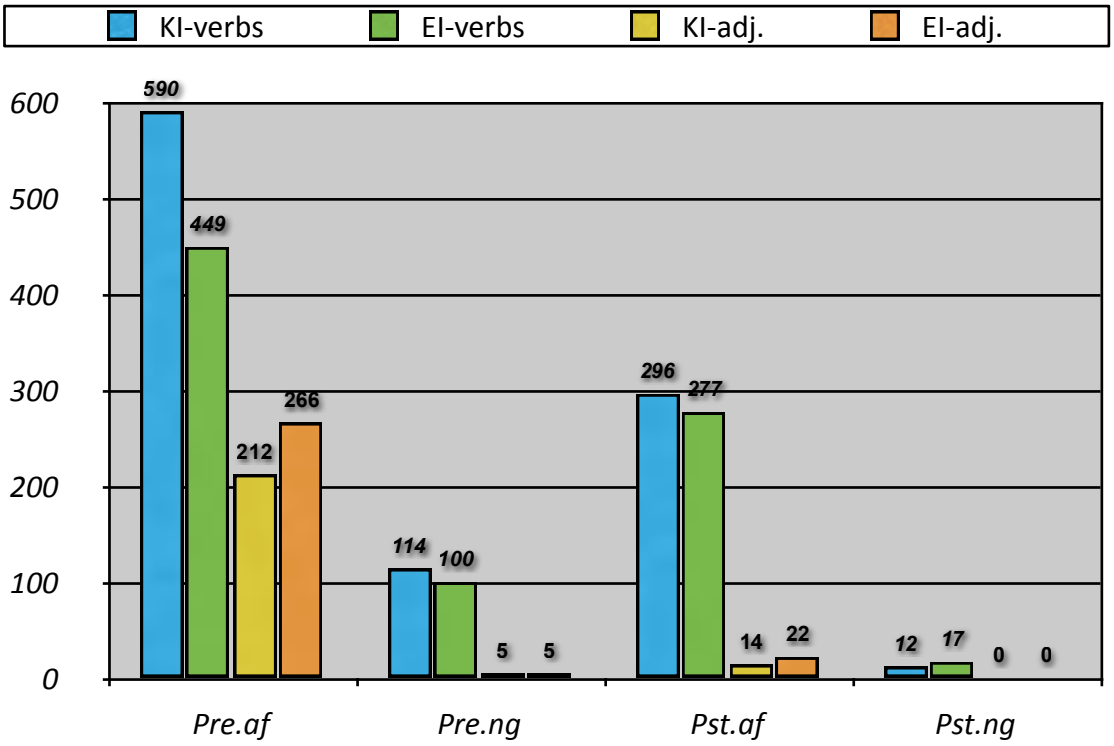

Chart 5. Use of different inflectional forms at I-level

Compared to N-level (cf. Chart 3), we see that for both groups, KI and EI, verbal forms with one affixation (i.e. present negative and past affirmative) are now very productive. In contrast, there are very few instances of the past negative form. As for adjectives, we observed in Chart 4 that their use had increased in all three forms (polite, conclusive, and adnominal), but here we see that the majority continues to be used in the present affirmative form and apart from some use in the past affirmative form, the tendency is the same as in N-level.

Inflectional errors are observed at a low rate. A typical error with verbs is to attach the polite suffix *-desu* (which is used for adjectives) instead of *-masu*:

(47) a. * Kutu, kotira-de kat-ta-desu (*kai-masi-ta*).
shoes here-Loc buy-Pst-Pol
(I) bought the shoes here.

(ENH01)

b. *... sirasete ageru desu. (*agemasu*)[18]
notify give Pol
(I) notify (someone something).

(KIM03)

The newly mastered negative form is also occasionally erroneous:

(48) a. * ... amai ja[19]-naku-te, (*amaku-naku-te*)
sweet Pol Neg-Ger[20]
not sweet

(EIM06)

b. *... wakara-nai desi-ta. (*wakara-nakat-ta-desu*)
understand-Neg Pol-Pst
(I) did not understand.

(KIL02)

In (48a), the intended form is the present negative form of the adjective, but instead of conjugating the root, the negative form of *desu* is used. In (48b), the verb is intended to be in the past negative form, but the past tense suffix is attached to the polite suffix instead of to the negative suffix.

Returning to Chart 1, there was a gap between EI and KI in the production of verbs: that of EI (1241 instances) was considerably less than KI (1636 instances). We contrasted the data of two average speakers in EI (EIL04 and EIM06, whose average number of verbs was 81) with those of two average speakers in KI (KIH02 and

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[18] In this example, *ageru* "give" is an auxiliary verb that conveys the meaning "do someone a favor".

[19] *Ja* is the contracted form of *dewa* used in colloquial Japanese. *Dewa* is part of the negative form of *desu*.

[20] *Ger* stands for Gerundive.

KIM02, whose average number of verbs was 165). The figures showed that the production of the two speakers in EI patterned that of N-level, that is, the majority of the forms were concentrated to the polite form and in present tense. Consequently, the present negative and past affirmative forms were much more productive in KI than in EI. Apparently, some speakers in EI had not yet reached a more productive phase of inflectional morphology that is characteristic of I-level.

Finally, let us look at the production of verbs and adjectives at A-level. Chart 6 shows the use of different forms in KA and EA:

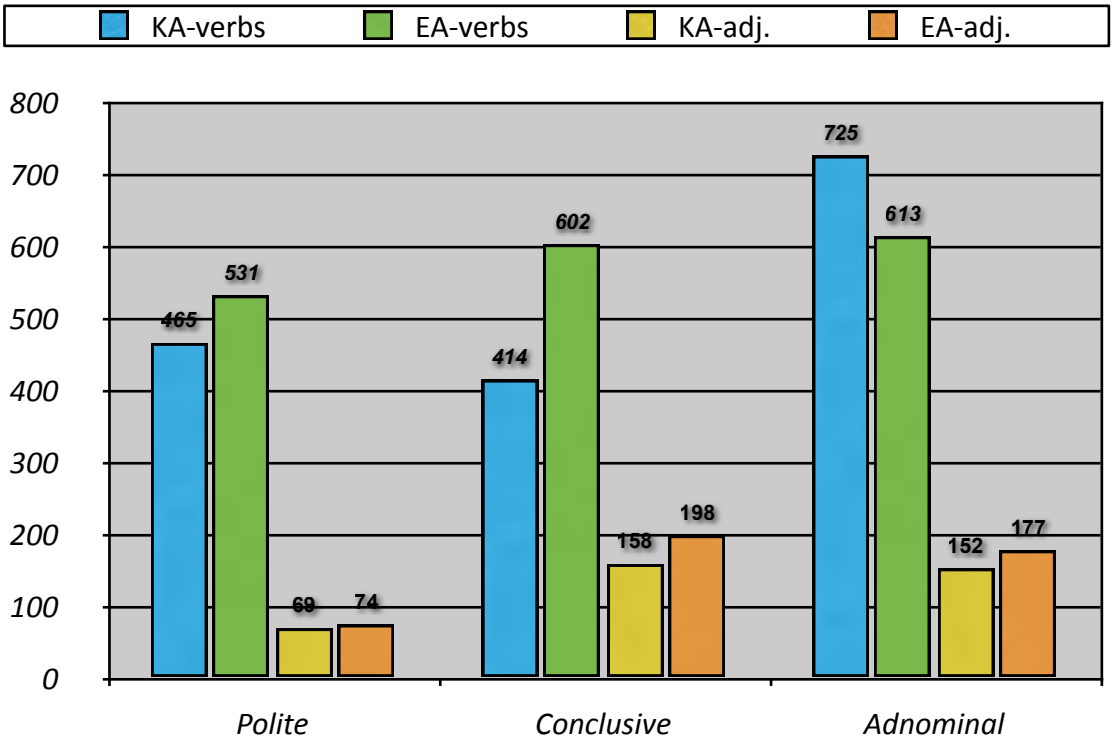

Chart 6. Distribution of different forms at A-level

Here, we see that all the forms are fully productive in both verbs and adjectives. As far as the three forms go, we may say that they are at their end-state at A-level. The volitive form and the conditional forms that had started to emerge at I-level (cf. Table 3) are now also more productive. Table 4 shows the number of instances observed in KA and EA and their proportion with respect to the total production of verbs:

Table 4. Production of volitive and conditional forms at A-level

	Volitive	Conditional (affirmative)	Conditional (negative)
KA	22 (1.34%)	16 (0.98%)	20 (1.22%)
EA	20 (1.61%)	50 (4.03)	13 (1.05%)

The next chart shows the distribution of different inflectional forms at A-level:

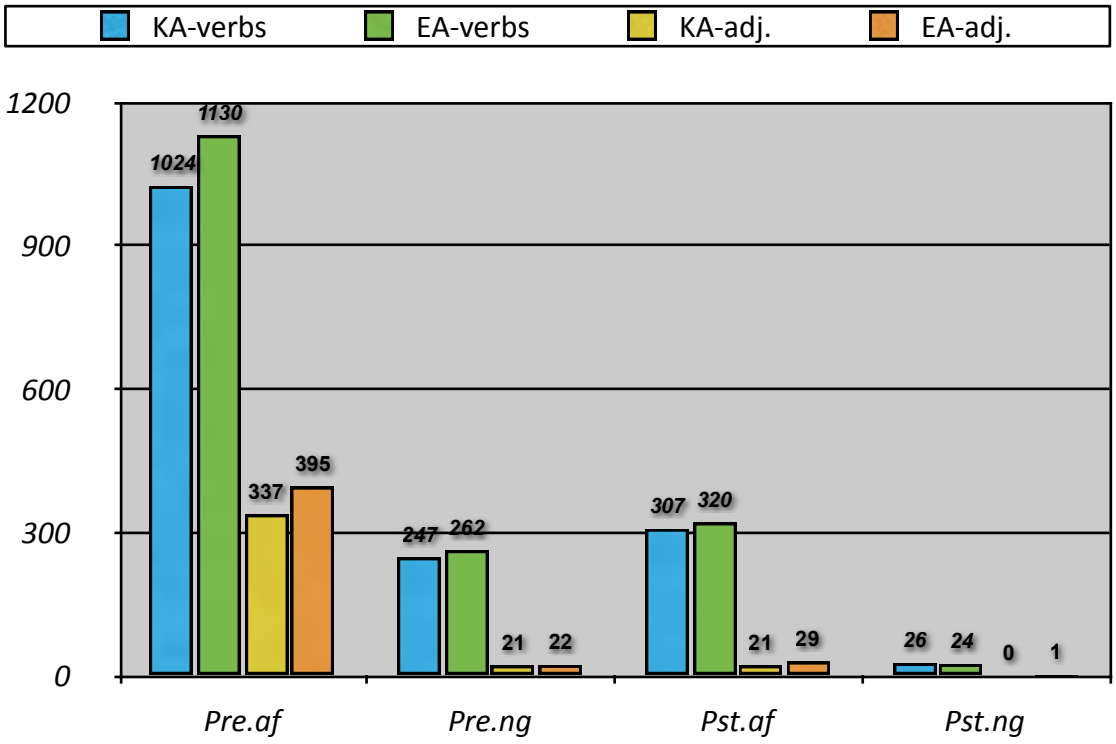

Chart 7. Use of different inflectional forms at A-level

With respect to verbs, we see that the present negative and the past affirmative forms are now very productive and that the past negative form continues to be rare. As for adjectives, there is a strong tendency for the present affirmative form. Negative forms and past tense forms are used slightly more than in I-level, but the past negative form is virtually never used. Inflectional errors are very few at this stage.

In sum, the acquisition of the inflectional paradigm in verbs starts from the polite form, followed by the conclusive and adnominal forms, and continues on to other

forms such as the volitive form and the conditional form. In particular, our data suggest that the adnominal form is acquired between N-level and I-level, and that the acquisition of the inflectional paradigm is completed by A-level[21]. With respect to our hypothesis that the adnominal form is difficult to acquire due to its morpho-phonological similarity with the conclusive form, we have seen that this is not the case, because the adnominal form is actually more productive than the conclusive form at I-level. Considering inflectional forms, the present affirmative form is acquired first. The past affirmative and the present negative forms, which involve affixation of one suffix, are mastered by I-level, but the past negative form, which involves two suffixes, is scarce even at A-level. In the production of adjectives, the present affirmative is used most of the time, even at an advanced stage and the past negative form is practically never used. The above tendency is common to both L1 Korean and L1 English speakers.

6.2.3 Development of sentential modifiers

Now that we have confirmed the general course of acquisition of verbs and adjectives, let us look at the development of sentential modifiers. Our goal here is to know when and how the different constructions emerge.

In KN (N=5), the total number of finite verbs observed was 191 (cf. Chart 1). Of them, six were used in the adnominal form (cf. Chart 2). Of the six instances, three were found in a nominal complement construction composed of the verb in past tense followed by *koto-ga arimasu/arimasen*. This construction expresses experience:

(49) a. ... densya-ni not-ta koto-ga ari-masu-kara
train-Loc ride-Pst.Adn matter-Nom have-Pol-Conj
(I) have ridden in a train, so ...

(KNH02)

[21] We have not been able to contrast our results with other related studies, because to the best of the our knowledge, the SLA of the inflectional paradigm in Japanese has not been documented.

b. ... it-ta koto-wa ari-masen
go-Pst.Adn matter-Top have-Pol.Neg
(I) have not gone (there).

(KNL01)

The other instances are found in nominal complements, as shown in (50a), and in adverbial relative clauses, as shown in (50b):

(50) a. ... ki-ta koto
come-Pst.Adn matter
that (someone) came

(KNH02)

b. watasi-ga benkyoosuru gakkoo
I-Nom study.Adn school
(the) school where I study

(KNH01)

As for adjectives, there are five examples in the adnominal form, of which four are used with an overt head noun, as shown in (51):

(51) ... tiisai kaban desu.
small.Adn bag be
... (it) is a small bag.

(KNM01)

In EN, there are four verbs in the adnominal form of 206 finite forms. There is one relative clause, depicted in (52):

(52) nihon-de kau, sasimi
Japan-Loc buy.Adn sasimi
sashimi that (I) buy in Japan

(ENH01)

Also observed in KN and EN are examples of the *no da* construction (cf. 6.2.1). (53a) illustrates an example with a verb, and (53b), with an adjective:

(53) a. ... aru n desu.
be.Adn be
...there is.

(ENL01)

b. ... itai n ja nai desu kara,
hurt be Neg be Conj
because (it) does not hurt

(KNM01)

In most examples (excluding those of the experience construction depicted in (49)), the embedded predicated is found in the present affirmative form. With respect to errors in sentential modifying constructions, KN has virtually none[22]. In EN, there are three examples of an overgenerated *no* between the modifying clause and the head noun, as depicted in the following:

(54) Watashitati-wa itiban kitanai **no** hito desu.
we-Top most dirty.Adn people be
We are the dirtiest people.

(ENH01)

All three examples are found with adjectives and the inflectional form of the adjective is correct.

At I-level, sentential modifiers increase dramatically and holistically in both KI and EI:

[22] There is actually one error in adjectives where the speaker (KNM01) says *tisai kaban* "small bag" instead of elongating the vowel: *tiisai*. In Japanese the length of the vowel (long/short) has semantic consequences (e.g. *yuki* "snow" vs. *yuuki* "courage") so the sample in question is phonetically incorrect. However, the speaker did not confuse it with another word since *tisai* does not exist, so we may say that the use of the adjective was grammatically correct.

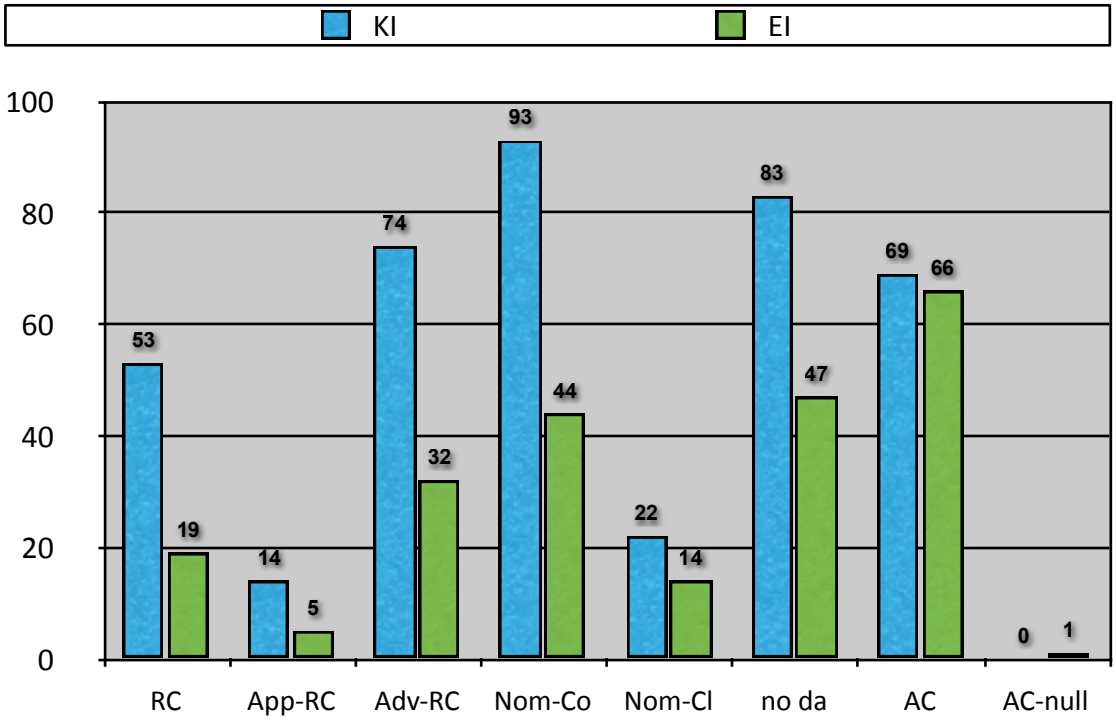

Chart 8. Production of sentential modifiers at I-level[23]

Generally speaking, the production of verbal constructions in EI is about half of that in KI. This is perhaps related to the difference mentioned in 6.2.2, namely, that some speakers in EI were still producing verbs in an N-level way. If so, their production of sentential modifiers would have been like an N-level speaker's. In contrast, we see that the production of adjectival clauses (AC) is very similar in EI and KI.

Apart from the difference mentioned above, in both KI and EI, nominal complements (Nom-Co), the *no da* construction (no da), and adverbial relatives (Adv-RC) are the most common constructions using the adnominal form. Adjectival clauses (AC) are also very productive. Here are some examples:

(55) ... kokkaigiin-o erabu senkyo desu.
Members of Congress-Acc choose.Adn election be
(It) is an election to choose Members of Congress.

(EIH04)

[23] RC: restrictive relative clause; App-RC: appositive relative clause; Adv-RC: adverbial relative clause; Nom-Co: nominal complement; Nom-Cl: nominalized clause; no da: *no da* construction (verbs and adjectives); AC: adjectival clause; AC-null: adjectival clause without an overt head.

(56) ... bukka-wa tyotto takai n desu kedo,
prices-Top a bit high be but
prices are a bit high, but

(KIH02)

(57) ... kaimono toka syokuji-o suru toki-ni,
shopping or meal-Acc do.Adn time-Obl
When I do shopping or have a meal,

(KIH04)

(58) wakai toki-wa, ano, bareedansu-o
young.Adn time-Top um ballet dance-Acc
When (I was) young, um, ballet

(EIM07)

(55) is an example of a nominal complement, (56) is of the *no da* construction, (57) is of an adverbial relative clause, and (58) is of an adjectival clause.

Restrictive relative clauses (RC) are also produced. Here are two examples:

(59) Boku-no tukutta yakisoba-wa
I-Nom[24] make.Pst.Adn yakisoba-Top
The yakisoba that I made

(EIM05)

(60) futari-no musume-o motte-iru oya no sakubun, desu kedo,
2.Cl-Gen daughter-Acc have-be.Adn Gen essay be but
(it) is an essay of a parent that has two daughters, but

(KIM01)

(59) is a direct object relative and (60) is a subject relative. The latter also shows that learners at this level can deal with a certain degree of syntactic complexity because

[24] In Japanese, there is a phenomenon called *Ga/No Conversion* or *Nominative-Genitive Conversion*, where *-no* appears as the nominative Case marker instead of *-ga* in nominal complements and relative clauses (see Hiraiwa 2001 and the references therein).

the relative clause is further embedded in a genitive construction. Nonetheless, generally speaking, restrictive relative clauses are not as frequent as some other constructions such as nominal complements and adverbial relative clauses. Recall that in our review of L1A in the previous chapter, we mentioned that in Korean, head-internal relatives, which are base-generated, are acquired earlier than head-external ones, which are derived by movement of the head noun (Lee 1991). The slower acquisition of restrictive relative clauses in SLA of Japanese may also result from the fact that this construction involves movement whereas the others do not.

In the more productive constructions, the embedded verb is found not only in the present affirmative form, but also in the past affirmative form (cf. Appendix 1, 2). With respect to adjectives, their use is limited for the most part to the present affirmative form. In both verbs and adjectives, the past negative form is scarcely used.

With respect to errors in sentential modifying constructions, there are few and they are basically of two types. The first one is an overgenerated *no*: there are fifteen instances in KI (5.0% of the total production of sentential modifiers with overt head nouns) and eleven instances in EI (6.6% of the total production of sentential modifiers with overt head nouns). Here are some examples:

(61) Tiisai (*no) toki-no, ...
small time-Gen
of the time (when I was) small.

(EIH03)

(62) Tuti-ga nagareru (*no) gensyoo-ga arimasita.
soil-Nom flow phenomenon-Nom was
(There) was a phenomenon (in which) the soil flows.

(KIH02)

(63) Ku-zi-kara hazimaru (*no) dorama desu.
nine-o'clock-from begin drama is
(It) is a drama that starts from nine o'clock.

(KIL02)

(61) is an adjectival clause, (62) is a nominal complement (gapless relative), and (63) is a SU relative. On a *t*-test of two samples with a significant level of 0.05, the statistic value shows that there is no significant difference in the probability that *no* would be overgenerated in the two language groups[25]. Construction-wise, eight of the fifteen instances in KI and nine of the eleven instances in EI are found in adjectival clauses. The other examples are found in different verbal constructions. In most cases, the embedded predicate is in the present affirmative form and it is correct. Thus, our hypothesis, that *no* is inserted in sentential modifiers because the adnominal form has not been mastered is not supported by the corpus data.

It is also interesting to note that not all the speakers exhibit the phenomenon: in the data analyzed, seven out of ten speakers in both EI and KI have done so. This tendency coincides with the case in L1A (cf. Murasugi 1991) that not all the children studied manifested the *no*-overgeneration phenomenon.

The second type of errors is a modifying construction that lacks an overt head or the nominalizer, *no*. Here are two examples:

(64) ikikaeru *(koto) mo dekiru-si,
relive matter Emp can-Conj
it can also relive

(KIH01)

(65) Watasi-wa ryo, ryoori-o tukuru *(no)-ga suki,
I-Top "ryo" meal-Acc make -Nom like
I like to make meals.

(EIL05)

(64) is a variation of the potential construction V_{inf}+*koto ga dekiru* ("can V") and the head noun, which is the formal noun *koto* "matter" is lacking. (65) is intended to be a nominal clause and it lacks the nominalizer *no*. This type of error is rare and found mostly in verbal constructions: three examples in KI and five examples in EI are

[25] The null hypothes is that *no* is overgenerated as frequently in KI as in EI was rejected if $t_0 > t_{0.025,18} = 2.1009$ or $t_0 > t_{0.025,18} = -2.1009$. The statistic value obtained was $t = 0.551$.

found with verbs and only two examples in KI are found with adjectives.

Finally, let us look at the production data at the A-level:

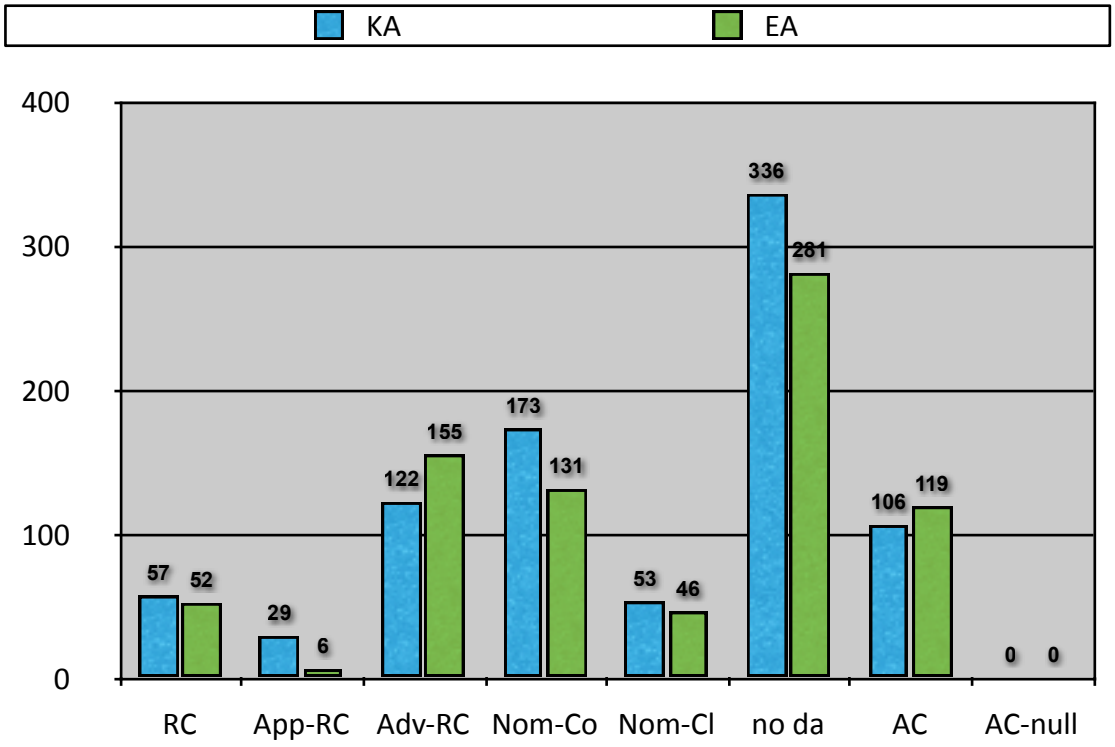

Chart 9. Production of sentential modifiers at A-level

At A-level, we see that the production of sentential modifiers in KA and EA is more similar and abundant. In particular, there is a big difference between the production in EI (cf. Chart 8) and EA. We mentioned in the production of verbs and adjectives that at A-level, the learners seemed to have reached an end-state. If so, the production pattern observed here may be a reference of how the production of constructions using the adnominal form looks like at an end-state.

Errors are also very few at this level. With respect to the overgeneration of *no,* it is observed three times each in KA and EA, which is less than 1% of the total production of sentential modifiers. We may say that the phenomenon has virtually ceased by this stage. The second type of error, namely constructions lacking the head noun or the nominalizer *no,* is also observed very few times. There are two examples in KA and five examples in EA. The most frequent case (one of the examples in KA

and three of the five examples in EA) is where a nominalized clause lacks the nominalizer *no*.

6.2.4 Summary: corpus analysis

In this first study, we have looked at how different inflectional forms of verbs and adjectives develop in the SLA of Japanese by L1 English and L1 Korean learners, when sentential modifiers are acquired, and furthermore, how the *no*-overgeneration phenomenon is manifested. Regarding the first question, we have observed that the polite form is the first to emerge and the adnominal and conclusive forms become productive at I-level. It may be that the adnominal form necessarily develops at this level because it is mainly used in sentential modifiers and the syntactic operation of embedding must be acquired for this form to be observed. We have also observed that once the adnominal form is acquired, it is more productive than the conclusive form. Thus, contrary to our prediction, the data have suggested that the adnominal form is not difficult for the L2 learner[26].

Regarding the acquisition of temporal and negative suffixes, we have observed that the first form to develop is the present affirmative form and the past affirmative and the present negative forms emerge later. The latter forms involve affixation of one suffix. The past negative form, which involves affixation of two suffixes, develops very late or is infrequent in the learners' speech. Inflectional errors during this time are very few and it is not the case that they are concentrated in the newly-emerged forms.

With regard to the second question, namely, how sentential modifiers develop, we have observed that at N-level, they are still not productive and that the most frequent construction is the adjectival clause with overt heads. At I-level, nominal complements and adverbial relatives, along with adjectival clauses, become

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[26] As mentioned in 5.3, the adnominal form and the conclusive form are taught together as the "ordinary form" (*futuukei*) in the majority of JSL classrooms.

productive. The *no da* construction, which requires the adnominal form of the embedded predicate is also very productive. Restrictive relatives are also observed, but they are less frequent than the other constructions. We have speculated that this may be because restrictive relatives are syntactically more complex than the other constructions. The embedded predicate is mainly found in the present affirmative form and the forms that involve affixation of one inflectional suffix, such as the past affirmative and the present negative forms, are observed to some extent in constructions that are productive, but the past negative form, which involves the affixation of two suffixes, is scarcely observed.

With respect to the third question, namely, how *no* is overgenerated in sentential modifying constructions, we have observed that it is mainly exhibited at I-level and its overall occurrence is low, reaching only 5 to 6.6%. It is observed in different types of sentential modifiers with overt head nouns, the most frequent one being the adjectival clause. In most cases the embedded predicate is in the present affirmative form and the form is correct. Thus, our hypothesis, that *no* is overgenerated in sentential modification constructions because the adnominal form is not fully acquired and fails to satisfy the requirement of Clausal Typing, has not been supported by our data. We have also observed that the phenomenon virtually ceases by A-level.

Another error that we have observed is that learners occasionally omit the head noun or the nominalizer *no* in nominal clauses. Its occurrence is very low and it happens most of the time with verbal modifying constructions. This error also virtually disappears by A-level.

Finally, regarding the difference in acquisition between L1 Korean and L1 English learners, we have observed that their production patterns are very similar. First, at N-level, EN seemed to be more productive than KN, but a closer look showed that this was due to one speaker whose production exceeded the others and this was reflected in the data because the number of speakers at this level was very small (N=5). Next, at I-level, we observed that some speakers in EI were producing verbs in a way

characteristic of N-level (i.e. the majority of them were used in the present affirmative form). However, the statistical analysis showed that there was no significant difference between the production of verbs in EI and that in KI. In effect, the two groups showed similar production patterns in other respects: the conclusive form and the adnominal form became productive at I-level; other forms such as the volitive form and the conditional form started to appear at this level (although to a lesser degree in EI); inflectional forms involving affixation of one affix (i.e. past affirmative and present negative forms) became productive; adjectives were used mostly in the present affirmative form; inflectional errors were rare; and the *no*-overgeneration phenomenon was observed to a similar degree. Finally, at A-level, their production was very similar both quantitatively and qualitatively.

6.3 Study 2: Experimental study

The second study consisted of an oral production task that was administered to L1 Spanish speakers who are learning Japanese in Madrid, Spain. The aim was to determine what their level of competence was with the different types of sentential modifiers and inflectional forms depending on their level of proficiency.

6.3.1 Method

The Simple Performance-Oriented Test (SPOT; Kobayashi et al. 1995) was employed to measure the proficiency of the participants[27]. The test was performed separately prior to the experiment.

The experiment consisted in an act-out task inspired by a task performed in Hamburger & Crain (1982). It was prepared on a Machintosh Keynote presentation (version 5.0.3). There were twelve short stories and two questions were asked at the

[27] The SPOT test has been developed as a placement test for language courses. It consists of an audio-tape recording of 30, 60, or 65 sentences and an answer sheet with the same sentences written in Japanese script. Each sentence has one Japanese letter missing and the testee must fill in the blank as he listens to the tape. The beginners-intermediate version (Version 3) was used for the present study.

end of each story. The participants carried out the task individually in a quiet room where they could concentrate. They were asked to follow the presentation and answer the questions orally. Their speech was recorded by a small microphone onto a computer using the application Audacity (version 1.2.5) and later transcribed by the author for analysis. The participants were allowed to take notes during the task if necessary and earphones were provided upon request. In order to familiarize the participants with the task, questions on personal data such as name, age, and language background were incorporated at the beginning of the presentation in the same way as the experiment and the participants had to provide the information orally (see Appendix 3 for the personal data of the participants). The vocabulary used in the experiment was carefully selected and a slide was prepared at the beginning to review some of the words. Before beginning the real task, there were two training stories. The author was with the participants during this stage to make sure that they understood the task. During the task, the author stayed in the same room, but did not intervene in the experiment. The narration was done by the author and the reading speed was similar to the audio CDs the students are used to hearing in class.

Here is an example of the stories (for more details, see Appendix 5 (page 204)):

(66) <u>Slide 1:</u>

Taroo-san-wa atarasii norimono-o takusan
Taroo-Cpl-Top new vehicles-Acc a.lot
mimasita.
saw
Taroo saw a lot of new vehicles.

<u>Slide 2:</u>

Kore-wa amerika-no kuruma desu.
this-Top America-Gen car is
This is an American car.

Slide 3:

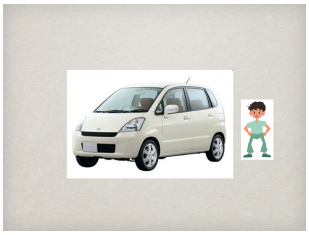
Kono baiku-wa totemo hayai-desu.
this motorbike-Top very fast-is
This motorbike is very fast.

Slide 4:

Kono kuruma-wa enzin-ga sizuka-desu.
this car-Top engine-Nom quiet-is
This car the engine is quiet.
(=The engine of this car is quiet)

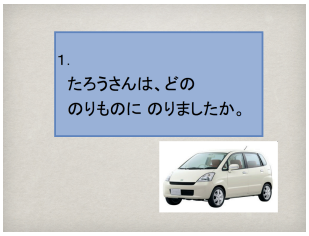
Slide 5:

Taroo-san-wa kore-ni norimasita.
Taroo-Cpl-Top this-Obl got.on
Taroo got on this car.



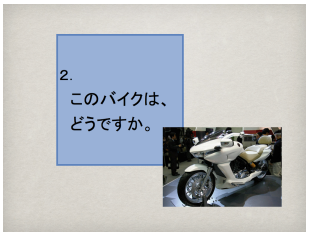
Slide 6:

Ichi: Taroo-san-wa dono norimono-ni
one Taroo-Cpl-Top which vehicle-Obl
norimasita-ka?
got.on-Int
One: Which vehicle did Taroo get on?



Slide 7:

Ni: Kono baiku-wa doo desu-ka?
two this motorbike-Top how is-Int
Two: How is this motorbike?



Slide 1 introduced a context. In Slides 2-4, three items were introduced: in the example above, an American car, a fast motorbike, and a car with a quiet engine. There were pictures in the slides. In order to avoid such answers as “the white one”, when items were presented, at least two were the same things (e.g. cars) or of the same color (e.g. white). Slide 5 concluded the story. In Slide 6 and 7, two questions were asked: one elicited a sentential modifier and the other was a content question to see if the participant had understood the story correctly. In the example above, the

correct answer for the question in Slide 6 is “the car whose engine is quiet”, and not “the car,” because there are two cars, nor is it “the white one,” because all the vehicles are white.[28] There was also a picture on each question slide that would remind the participant of the correct answer.

The experiment using a slideshow presentation was devised as an efficient way to place the participant in a certain context in a short amount of time and to elicit target phrases that involved not only the present tense, but also the past tense and negation. It also made it possible to perform an experiment that would otherwise need more material and assistants.

Twelve sentential modifying constructions were elicited in the experiment. Based on the hypothesis that syntactic and morphological complexity may affect performance, the following types of constructions and inflectional forms were tested:

(67) Types of constructions:

Constructions without movement of the head noun:

- Adjectival clause (AC)
- Nominal complement (NC)

Constructions with movement of the head noun:

- SU relative clause (SU)
- DO relative clause (DO)

Inflectional forms:

- Base form (base): present affirmative form
- Form with one suffix (+1): present negative form,
  past affirmative form
- Form with two suffixes (+2): past negative form

The test sentences were ordered so that the same type of construction or inflectional

[28] After the training stories, the participants were asked to describe the item/person when giving the answers and not to answer “the last one” or “the third one.”

form would not be repeated in a row. There were no distractors because the task involved different kinds of sentential modifiers and there were content questions that did not involve any modifier.

In previous studies, it had been noted that there is an "animacy effect" in the production of relative clauses (cf. Ozeki & Shirai 2007 and the references therein). That is, L2 learners perform better on SU relatives when the head noun is animate rather than inanimate and they perform better on DO relatives when the head noun is inanimate rather than animate. Thus, the head nouns of SU relative clauses in this experiment were all animate nouns (people) and those of DO relative clauses were all inanimate nouns (things). Also, the head noun of nominal complements was limited to *koto* "thing, matter." Most of the vocabulary was chosen from the textbooks the participants use (or have used) in the classroom[29] and a slide was shown before the trial stories to review possibly unfamiliar words.

6.3.2 Participants

The participants were 18 students enrolled in Japanese courses at Comillas Pontifical University (Universidad Pontificia Comillas) in Madrid and the Center for Modern Langauges (Centro Superior de Idiomas Modernos) of Complutense University of Madrid (Universidad Complutense de Madrid). They were all L1 Spanish speakers from different parts of Spain[30] and Spanish was the language that they had spoken during their first five years of life[31]. The age of the participants ranged between 20 and 39 (See Appendix 3 for details). All of them were enrolled in Japanese courses and had studied the constructions in question previously in class. None had lived in Japan for more than three months and their experience with Japanese varied. There were also ten native speakers who participated as controls (See Appendix 4 for

[29] The textbook series *Minna no Nihongo* (3A Corporation, Tokyo) is used in both institutions.

[30] Twelve participants were from Madrid and there was one participant from Canarias, Salamanca, Ciudad Real, Segovia, Málaga, and Sevilla, respectively.

[31] The native language of their parents was also Spanish, except for one participant whose father's native language was Catalan. He was included in the study because he was born and had lived in Madrid all his life.

details). All the participants in this study were volunteers. They were not paid and were told that if they wanted, they would be provided with information about the actual issues that they were tested about.

We divided the participants into two groups according to their SPOT scores: the L(ow)-group had scored under 60 on a scale of 100 (min. 23.3, max. 53.3) and the H(igh)-group had scored over 60 (min. 61.7, max. 96.7). There were nine participants in each group.

6.3.3 Results

6.3.3.1 Results by inflectional form

The answers obtained were classified into the following categories: (a) correct embedded construction; (b) non-target embedded construction (with a wrong inflectional form or without a head); (c) simple sentence; and (d) other (answers without sentential modifiers, irrelevant answers, and no answer). In this section, we will analyze the results according to the inflectional form of the embedded predicate.

Chart 10 shows the results with the embedded predicate in the "base" form, which is the present affirmative form. As we observed in the corpus study, this form is the most common one in the JSL learners' speech and the one that is most frequently used in sentential modifiers. Thus, if our participants had already acquired sentential modifying constructions, we expected that they would do best with this form. The letters "a", "b", "c", and "d" indicate the type of answer according to our classification presented above. The columns named "L" show the production of L-group (N=9), "H", that of H-group (N=9), and "C", that of the control group (N=10). They are grouped by the type of modifying construction: adjectival clauses (AC), nominal complements (NC), subject restrictive relatives (SU), and direct object restrictive relatives (DO).

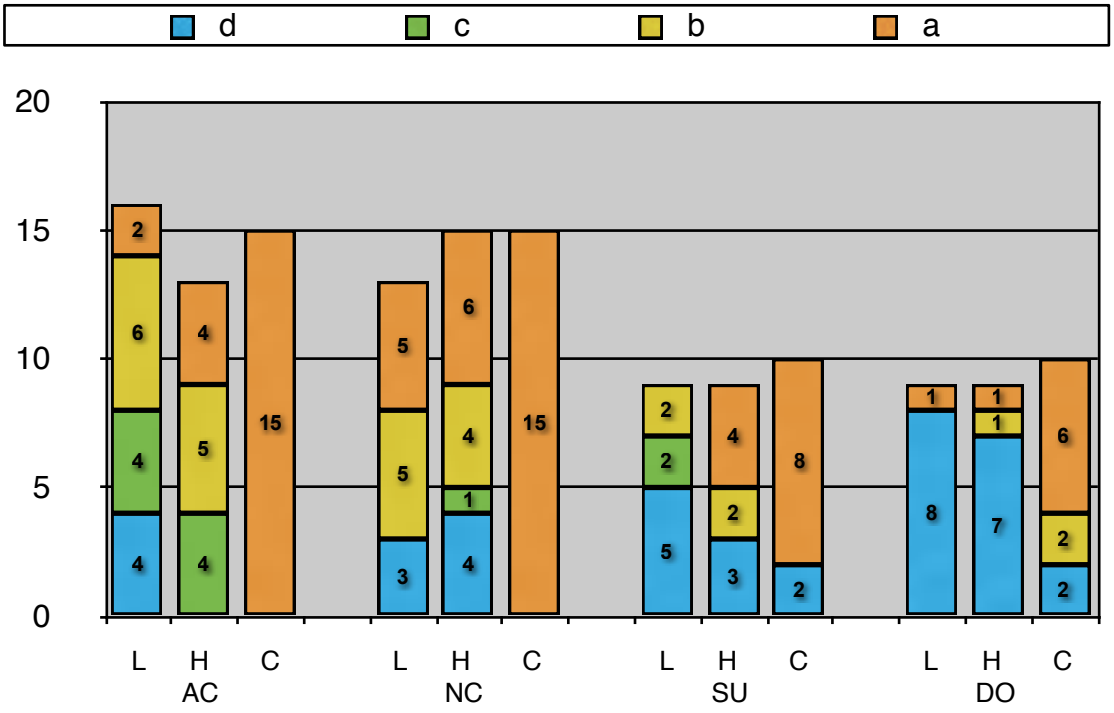


Chart 10. Production of sentential modifiers with the embedded predicate in the "base" form

The numbers in each column do not add up to the same number, because despite careful planning, there were several answers that permitted two inflectional forms. For example, in a story aimed to elicit an adjectival clause in past tense, the question to elicit the sentential modifier was, "What kind of *anime*[32] did the students remember most?" and the target answer was "*Anime* that was fun," but half of the controls answered in present tense ("*Anime* that is fun"). Consequently, those answers (including correct embedded constructions, non-target embedded constructions, and simple sentences) were included in this category along with the other samples of the embedded predicate in the "base" form.

In adjectival clauses (AC) and nominal complements (NC), we see that both L-group and H-group can produce embedded constructions but about half of the time they are erroneous (answer type "b"). Here are two examples (the erroneous form is underlined and the correct form is indicated in italic, in parenthesis):

[32] *Anime* is a commonly used term meaning animation originating in Japan.

(68) a. *Enzin-no sizuka kuruma desu. (*sizukana*)
engine-Gen quiet car be
(It) is a car whose engine is quiet.

(ESH02)

b. *Omosiro anime-ga itiban oboete-i-masita. (*Omosiroi*)
interesting anime-Nom most remember-be-Pol.Pst
(They) remembered most anime that is interesting.

(ESL06)

In (68a), the correct form of the adjective is *sizukana*, but the inflection is missing in the example. Likewise, in (68b), the adnominal form of the adjective should be *omosiroi*, but the inflection is missing and the particle marking *anime* should be the accusative *-o*, not the nominative *-ga*.

In restrictive relatives (SU and DO), the accuracy rate is generally lower than in AC and NC. In fact, we see that no one in L-group has succeeded in producing the SU-relative and there is only one correct answer in the DO-relative. H-group managed to produce some correct answers in SU, but their preformance in DO is very similar to that of L-group.

We also see that not all the controls have produced the target construction. In the case of the SU-relative, this was because two of the controls answered *kokku-san* "chef" instead of the more elaborate [*resutoran-de hataraiteiru*] *hito* "person that works at a restaurant". In the case of the DO-relative, two of the controls answered *kazoku-e no kaado* "card to the family" instead of the relative clause, [*kazoku-e okuru*] *kaado* "card that (she) will send to the family." In fact, of the type "d" answers, four in L-group and six in H-group were a genitive construction: *kazoku no kaado* "card of the family." Strictly speaking, "card of the family" is not the same as "card to the family", but it was presumably safer and easier for the participants to answer this way than to try to generate a relative clause. It has also been reported in previous studies on restrictive relative clauses (Flynn 1987, 1989) that there is a tendency among speakers to avoid the production of these constructions.

Next, let us look at the results of sentential modifiers with the embedded predicate in the "+1" form, that is, the present negative form and the past affirmative form:

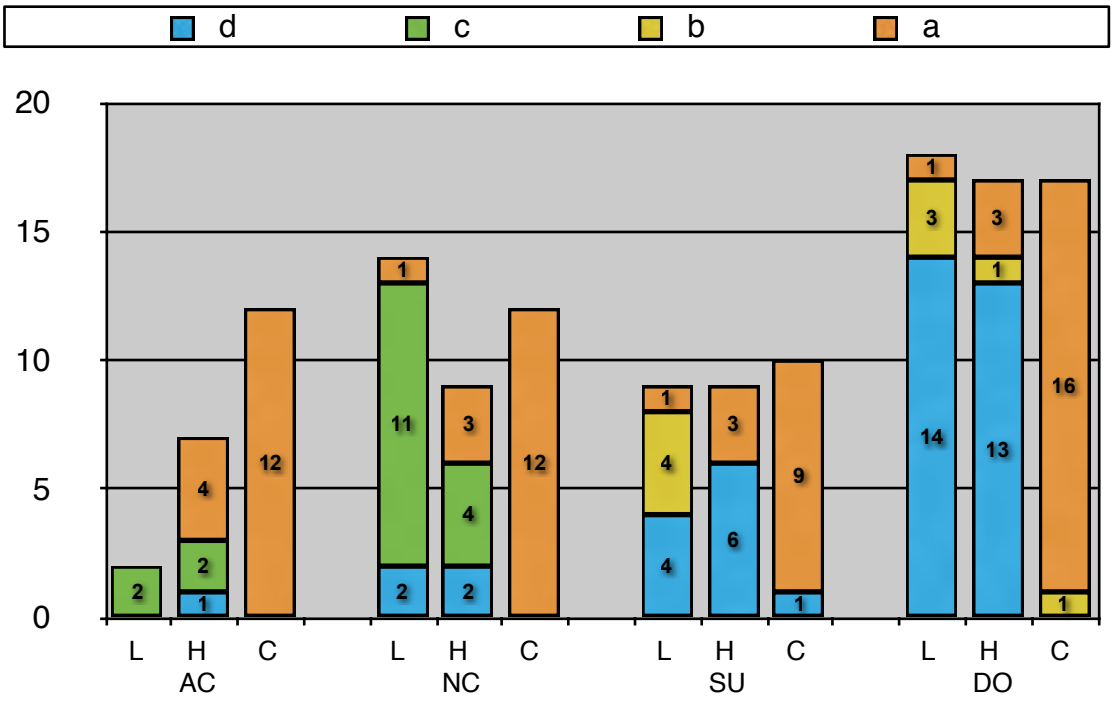


Chart 11. Production of sentential modifiers when the embedded predicate was a "+1" form

First of all, we notice that there are few instances of AC. This is because, as mentioned earlier, there were stories where two forms were possible and apparently the less complicated one was preferred by the participants.

When we compare the results on NCs in Chart 11 with those in Chart 10, we see that the results are worse when the embedded predicate is a "+1" form. Most of the answers provided by the L-group are simple sentences and many answers provided by the H-group are also so. Here are two examples:

(69) a. Keeki-o tabe-masen.
cakes-Acc eat-Pol.Neg
(She) does not eat cakes.

(ESL02)

b. Uta-o utai-masita.
songs-Acc sing-Pol.Pst
(They) sang songs.

(ESL03)

In both examples, the correct answer should be a nominal complement headed by *koto* "matter" (i.e. *keeki-o tabenai koto* "to not eat cakes", *uta-o utatta koto* "that they sang songs"). Instead, the examples are simple sentences and the verbs are in the polite form.

With respect to SU and DO, many of the answers were of type "d". Here are some examples:

(70) a. Ni-zi, futari, hito
two-o'clock two.people person
two o'clock, two people

(ESL08)

b. Ni-zi-no ko(do)motati
two-o'clock-Gen children
children of two o'clock

(ESH06)

(71) a. Denwa-o age-masita.
telephone-Acc give-Pol.Pst
(He) gave the telephone.

(ESL02)

b. Kodomotati-to syasin-o itiban sukidesu.
children-with picture-Acc most like-Pol.Pre
(She) likes the picture with the children most.

(ESH06)

In (70), the correct answer is a SU-relative: [*Ni-zi-ni kita*] *futari* "two people that came at two o'clock". (70a) consists of three words which do not form any construction and (70b) is a genitive construction that is not a valid answer under the

context. In (71a) and (71b), the target construction is a DO-relative. In (71a), the relative clause is missing and in (71b), the embedded verb *totta* "took" is missing.

Finally, let us look at the results of sentential modifiers with the embedded predicate in the "+2" form, which is the past negative form:

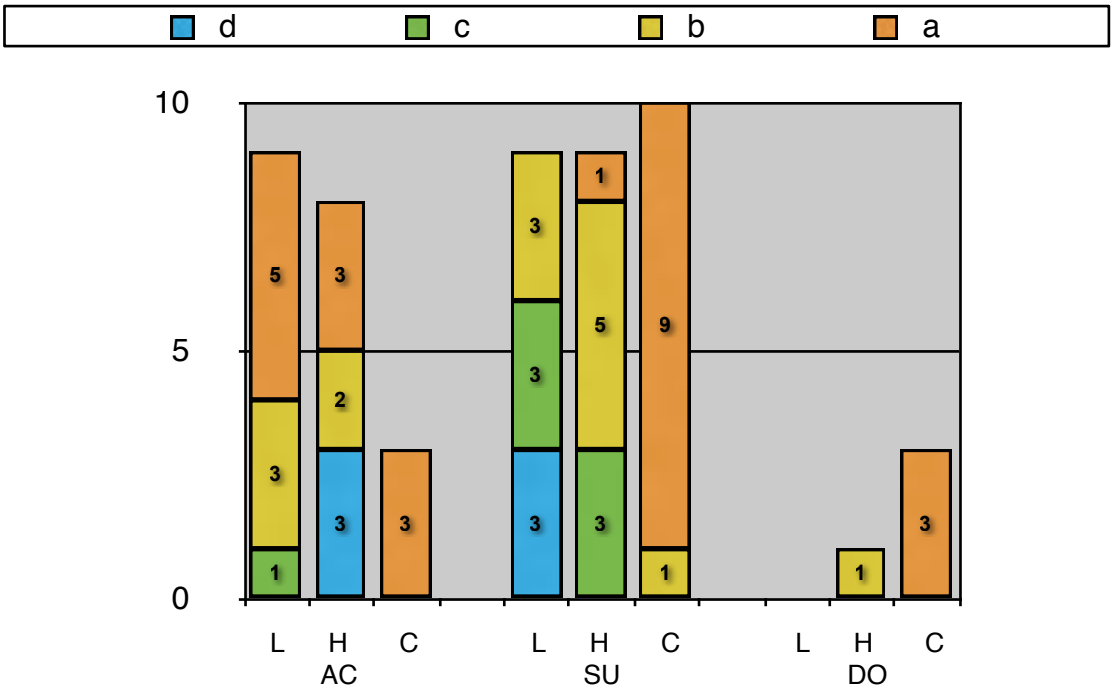


Chart 12. Production of sentential modifiers when the embedded predicate was a "+2" form

Here again, the number of answers varies because there were stories that could be answered in the present negative form and this was the option preferred, even by the control group[33].

Curiously, we observe that the L-group was quite successful in producing the AC with the past negative form:

[33] There was also a story to elicit the following nominal complement (NC) in (i), but all the answers obtained were in the present negative form:

(i) Keeki-o tabe-**nakat-ta** koto
cake-Acc eat-Neg-Adn.Pst matter
that (she) did not eat cakes

(72) Omoku-nakat-ta konpyuutaa-o kai-masita.
heavy-Neg-Pst.Adn computer-Acc buy-Pol.Pst
(She) bought the computer that was not heavy.

(ESL05)

In restrictive relatives (SU and DO), the most common answer was a non-target embedded construction, as depicted in the following examples:

(73) a. *Dokomo iki-masendesita hito desu. (*ika-nakat-ta*)
nowhere go-Pol.Neg.Pst person be
(It) is the person that did not go anywhere.

(ESH02)

b. *Kare-wa, tukatte-i-masendesita, denwa-o
he-Top use-be-Pol.Neg.Pst telephone-Acc
tomodati-ni age-masita. (*tukatte-i-nakat-ta*).
friend-Dat give-Pol.Pst
He gave the telephone that he was not using to his friend.

(ESH09)

(73a) is a SU-relative and the embedded predicate is in the polite form. The correct form should be *ika-nakat-ta*. (73b) is a DO-relative and the embedded predicate should be *tukatte-i-nakat-ta*, instead of the polite form[34].

6.3.3.2 Results by construction

Next, let us analyze the results by the type of sentential modifier. Again, the answers are classified into four types: (a) correct embedded construction; (b) non-target embedded construction (with a wrong inflectional form or without a head); (c) simple sentence; and (d) other (answers without sentential modifiers, irrelevant answers, and no answer). Table 5 shows the number of answers in each type and the percentage:

[34] (73b) is the only answer of this category (DO with a "+2" form) because the answers were in the "+1" form.

Table 5. Results by type of sentential modifier

	L-group				H-group				C-group			
	a	**b**	**c**	**d**	**a**	**b**	**c**	**d**	**a**	**b**	**c**	**d**
AC	7 26%	9 33%	7 26%	4 15%	11 39%	7 25%	6 21%	4 14%	30 100%	0 0%	0 0%	0 0%
NC	6 22%	0 0%	16 59%	5 19%	9 38%	4 17%	5 21%	6 25%	30 100%	0 0%	0 0%	0 0%
SU	1 4%	9 33%	5 19%	12 44%	8 30%	7 26%	3 11%	9 33%	27 90%	0 0%	0 0%	3 10%
DO	1 4%	4 15%	0 0%	22 81%	4 15%	3 11%	0 0%	20 74%	26 87%	2 7%	0 0%	2 7%

In the case of the L-group, we see that AC (26%) and NC (22%) are the more successful constructions and that their performance is far better than in the case of restrictive relatives (SU (4%) and DO (4%)). Furthermore, when we consider the rate of non-target embedded constructions (type “b”), we see that the probability of forming an embedded construction was higher in SU (33%) than in DO (15%).

As for the H-group, we also see that AC (39%) and NC (38%) have been more successful than restrictive relatives, but here the difference between these constructions and SU (30%) is not as large as in the case of the L-group. Between SU and DO, the values indicate that SU (30%) was easier for the participants than DO (15%). Generally speaking, H-group performed better than L-group.

However, the probability of forming a correct embedded construction has not reached 50% in neither group. Thus, although the participants had studied these constructions in the classroom, they were apparently under development in the participants’ grammar and had still not reached a productive state yet.

6.3.3.3 Non-target embedded constructions

Finally, let us look at the types of errors observed in the non-target embedded constructions (type "b" answers). As already depicted in (73), many of the answers in this category consisted of incorrect inflectional forms. Here are two more examples:

(74) a. *2-zi, ki-masita futari desu. (*ki-ta*)
two-o'clock come-Pol.Pst two.people be
It is the two people that came at two o'clock

(ESL07)

b. *Tukara-nai denwa-o age-masita. (*tukawa-nai*)
?use-Neg.Adn telephone-Acc give-Pol.Pst
(He) gave the telephone that he does not use.

(ESL03)

In (74a), the embedded predicate should be in the adnominal form instead of the polite form. In (74b), the root is erroneous: the correct form should be *tukawa-nai* "not use."

In NC, there were a few examples that lacked the head noun or the nominalizer, *no*:

(75) Uta-o utau*(koto/no) - ga itiban tanosikat-ta-desu.
songs-Acc sing -Nom most fun-Pst-Pol
To sing songs was most fun.

(ESH07)

(76) Itiban tanosikat-ta *(no)-wa piano-o hiki-masita. (*hii-ta koto desu*)
most fun-Pst.Adn -Top piano-Acc play-Pol.Pst
What was most fun was that (we) played the piano.

(ESH05)

In (75), the head noun is missing. The correct answer is *uta-o utau koto* "to sing songs" or a nominalized clause: *uta-o utau no* "to sing songs". (76) is intended as a pseudo cleft sentence. The nominalizer *no* is lacking and the complement should also be nominalized: *piano-o hii-ta koto* "that (they) played the piano."

The *no*-overgeneration phenomenon has also been observed:

(77) a. *Enzin-ga sizuka **no** kuruma desu. (*sizukana*)
engine-Nom quiet car be
(It) is a car whose engine is quiet.

(ESH01)

b. *Omosiroi **no** anime to daisuki to ...
interesting.Adn anime and favorite and
Anime that is interesting and favorite and ...

(ESL03)

c. *Omoku-nakat-ta **no** konpyuutaa-o kai-masita.
heavy-Neg-Pst.Adn computer-Acc buy-Pol.Pst
(She) bought the computer that was not heavy.

(ESL09)

In (77a), the adnominal form is erroneous and there is a superfluous *no*. In (77b) and (77c), the adjectives are in the target form and *no* is inserted.

An overgenerated-*no* was observed three times in L-group and four times in H-group. They were all produced by different participants and they all occurred in ACs. Of the seven instances, three occurred with the adjective in the correct form and four occurred with non-target forms. The frequency of the phenomenon was 15% (three out of 20 embedded constructions) in L-group and 13.8% (four out of 29 embedded constructions) in H-group.

These results partially support our hypothesis, namely, that *no* is overgenerated in sentential modifying constructions because Clausal Typing fails to be done by the adnominal form. On the one hand, we have observed that sentential modifiers are difficult to produce for the participants of this study, which suggests that the adnominal form is not yet mastered at this state. On the other hand, we have seen that often when *no* is overgenerated, the embedded predicate is in the correct form. We will discuss this issue in more detail in the next chapter.

6.3.4 Summary: elicited production task

In this second study, we have investigated how L1 Spanish JSL learners cope with different types of sentential modifying constructions and different forms of the embedded predicate. We tested their performance on adjectival clauses (AC), nominal complements (NC), subject restrictive relatives (SU), and direct object restrictive relatives (DO). The embedded predicate was in three different forms: "base" form (present affirmative form), "+1" forms (present negative form and past affirmative form), and "+2" form (past negative form).

We have shown that constructions are easier to produce with the embedded predicate in the "base" form than in more complex forms (i.e. the "+1" forms and the "+2" form). This corresponds to the order of acquisition that we observed in the corpus study.

In terms of construction-type, we have shown that AC and NC are easier than restrictive relative clauses. This goes in the same direction as our syntactic analysis presented in Chapter 3, namely, that restrictive relative clauses are syntactically more complex than other sentential modifiers such as AC and NC, because they involve movement of the head noun.

Between the two types of relatives, SU and DO, our data have shown that SU-relatives are easier than DO-relatives. These findings also coincide with previous studies on the SLA of Japanese relative clauses (Kanno 2000, Roberts 2000).

In general, the production of sentential modifiers by the participants in this second study has been low, which indicates that the particpants had not reached a productive stage in the production of sentential modifying constructions, although they had studied them in the JSL classroom.

With respect to the *no*-overgeneration phenomenon, it has been observed several times in both groups. All the instances have been found in ACs and the frequency has

been 13.8%-15%.

6.4 Summary

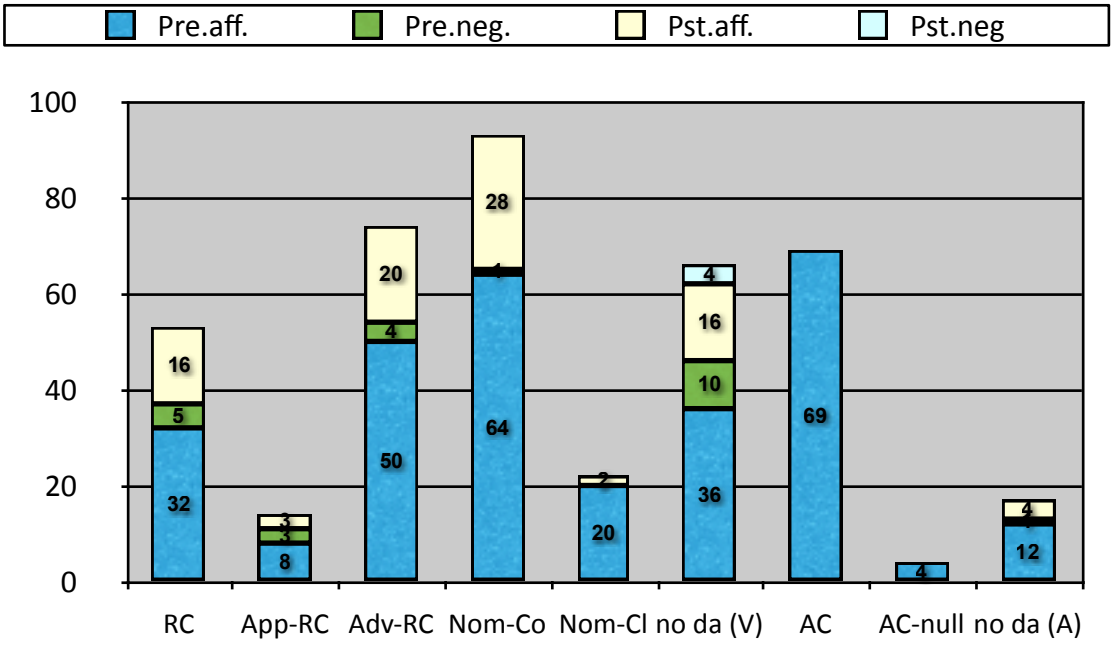
Through the two studies presented in this chapter, we have discovered the general course of development of sentential modifying constructions in the SLA of Japanese. First of all, the adnominal form, which plays a central role in these constructions, develops after the polite form and coincides more or less with the conclusive form. Its development is evidenced not only by sentential modifying constructions, but also by the emergence of the *no da* construction and nominalized clauses.

Secondly, regarding the order of development among the different sentential modifiers, adjectival clauses, nominal complements, and adverbial relative clauses are among the first to emerge and restrictive relative clauses develop later. This order is in accordance with the theoretical proposal that restrictive relative clauses are syntactically more complex than other sentential modifying constructions because they involve movement of the head noun. As for the form of the embedded predicate, the present affirmative form (i.e. "base" form) is most frequently used when sentential modifiers started to appear and the so-called "+1" forms (i.e. present negative and past affirmative forms) are used when the constructions become more productive. This indicates that morphological complexity of the embedded predicate adds difficulty to the production of sentential modifying constructions. In the corpus data, inflectional errors are rarely observed, which suggests that L2 learners are conservative about new and unmastered forms.

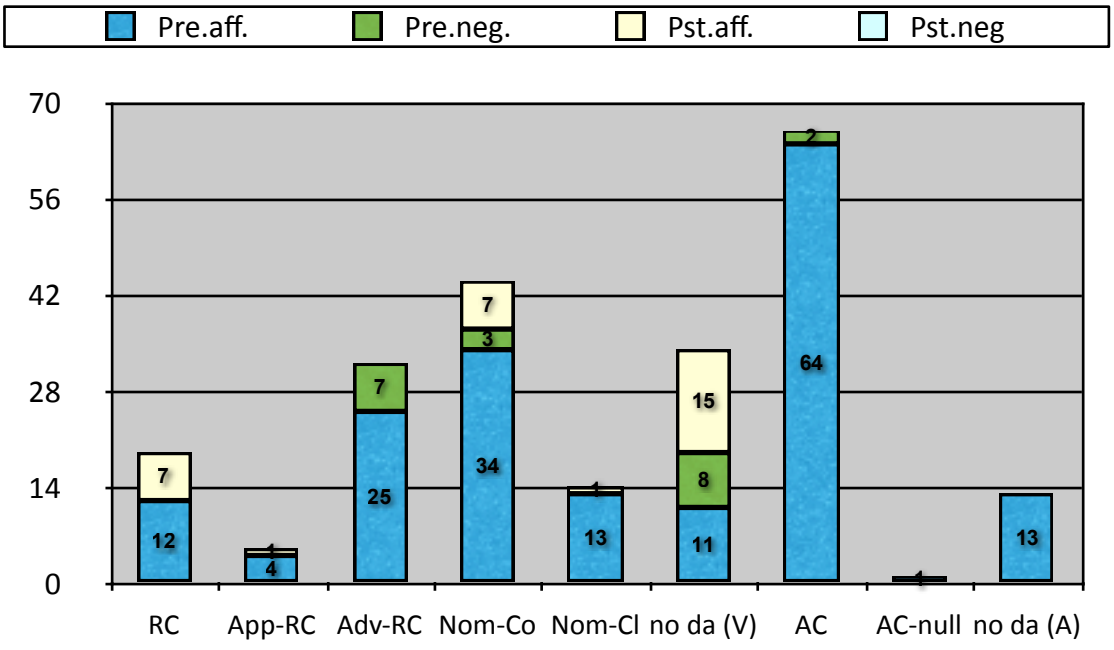
During the development of sentential modifying constructions, several types of errors were observed. In the corpus data, there were two main types of errors: omission of the head noun or of the nominalizer *no*; and an overgenerated-*no* between the head noun and the modifying clause (i.e. *no*-overgeneration phenomenon). The latter was observed with different types of sentential modifiers and normally with already mastered forms, such as the "base" form. The two types of errors were observed at a

low rate principally at I(ntermediate)-level, and virtually disappeared at A(dvanced)-level.

In the experiment, the speakers failed to produce the target constructions in many cases. This suggested that although they had learned the constructions previously in the classroom, they had not reached a productive stage and that they were producing the constructions because they were forced to do so. The *no*-overgeneration phenomenon was also observed, but in a way different from the corpus study: it was only observed in adjectival clauses and it often occurred with non-target inflectional errors. We will come back to the different instances of the *no*-overgeneration phenomenon in the next chapter.



Appendix 1. Use of different inflectional forms in sentential modifiers of KI[35]



Appendix 2. Use of different inflectional forms in sentential modifiers of EI

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[35] Pre.aff.: present affimative form; Pre.neg.: present negative form; Pst.aff.: past affimative form; Pst.neg.: past negative form; RC: restrictive relative clause; App-RC: appositive relative clause; Adv-RC: adverbial relative clause; Nom-Co: nominal complement; Nom-Cl: nominalized clause; no da (V): *no da* construction with verbs; AC: adjectival clause; AC-null: adjectival clause without an overt head; no da (A): *no da* construction with adjectives.

Appendix 3. Personal data of the participants

(A) Participant
(B) Age of the participant
(C) Origin of the participant
(D) L1 of the participant
(E) L1 of the participant's mother
(F) L1 of the participant's father
(G) Language spoken in childhood
(H) Language spoken until five years of age
(I) Language currently spoken at home
(J) Languages learned at primary school
(K) Languages learned at secondary school
(L) Languages learned at university
(M) Other languages learned

* ar: Arabic; ch: Chinese; de: German; en: English; es: Spanish; fr: French; ga: Gallego; it: Italian, jp: Japanese; ko: Korean; pt: Portuguese.

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
ESL01	20	Madrid	es	es	es	es	es	es, en	fr	en, fr	jp, en, fr	
ESL02	21	Madrid	es	es	es	es	es	es	en	en, fr	en, fr, jp	
ESL03	21	Salamanca	es	es	es	es	es	es	en	en, fr	en, fr, jp	ch
ESL04	20	Madrid	es	es	es	es	es	es	en	en, fr	en, fr, jp	
ESL05	21	Málaga	es	es	es	es	es	es	en	en, fr	en, fr, jp	
ESL06	20	Madrid	es	es	es	es	es	es	en	en, fr	en, fr, jp	
ESL07	20	Ciudad Real	es	es	es	es	es	es	en, fr	en, fr	en, fr, jp	
ESL08	24	Segovia	es	es	es	es	es	en	en	en	de, jp, en	
ESL09	21	Madrid	es	es	es	es	es	es	en	en, fr	en, fr, jp	

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
ESH01	21	Sevilla	es	es	es	es	es	es	en	en, fr	en, jp, fr	it, pt
ESH02	23	Madrid	es	es	es	es	es	es	en	en, fr	en, jp, it	jp, it
ESH03	25	Madrid	es	es	es	es	es	es	en	en, fr	jp	
ESH04	21	Canarias	es	es	es	es	es	es	en, fr	en, fr	en, fr, jp	
ESH05	26	Madrid	es	es	cat	es	es	es	en	en	en, jp	
ESH06	29	Madrid	es	es	es	es	es	es	en	en	en, jp	ko
ESH07	39	Madrid	es	es	es	es	es	es	en	en	en, jp, ch	fr, de, it, ga
ESH08	28	Madrid	es	es	es	es	es	es	en	en, latin	en, jp	
ESH09	23	Madrid	es	es	es	es	es	es	en, de	en, de	en, de, jp	it, ar

Appendix 4. Personal data of the control group

Control participant	Place of birth	Age	Institution[1]
JP01	Kangawa	32	KEIO
JP02	Hiroshima	26	KEIO
JP03	Miyagi	31	KEIO
JP04	Toyama	27	KEIO
JP05	Kanagawa	26	KEIO
JP06	Málaga[2]	22	UPCO
JP07	Tokyo	22	UPCO
JP08	Tokyo	22	UPCO
JP09	Kanagawa	49	UCM
JP10	Hiroshima	42	UC3M

[1]KEIO: Keio University; UPCO: Comillas Pontifical University (Universidad Pontificia Comillas); UCM: Complutense University of Madrid (Universidad Complutense de Madrid); UC3M: Carlos III University of Madrid (Universidad Carlos III de Madrid).

[2]This participant was born and raised in Málaga, Spain, but both her parents are Japanese and Japanese was the language that was spoken at home during her childhood.

Chapter 7 General Discussion

7.1 Overview

In the previous chapter, two studies were presented: a corpus analysis and an elicited production task. The goal of these studies was to understand how Japanese sentential modifiers are acquired in SLA and to what extent *no* is overgenerated in them.

In the theoretical discussion, we reached the conclusion that the adnominal form plays a central role in the Clausal Typing of nominal clauses in Japanese. We have interpreted this as a PF requirement and proposed the following mechanism for the Clausal Typing of adnominal clauses (cf. 4.4.1, repeated here as (1)):

(1) Clausal Typing of adnominal clauses

Adnominal clauses are typed by one of the following strategies, whose order is determined by the Principle of Economy of Derivation (Chomsky 1989):

(i) a verbal suffix (i.e. the adnominal form);

(ii) a particle;

(iii) a free morpheme (i.e. complementizer)

With respect to the phenomenon in acquisition, where learners overgenerate *no* between the sentential modifier and the head noun, we made the following hypothesis:

(2) *No* is overgenerated in sentential modifiers because Clausal Typing of the embedded clause fails to be achieved by the adnominal form.

In this chapter, we will review the findings from our two studies and discuss their implications in the light of other findings and proposals that have been made in the literature.

7.2 On the development of the adnominal form

The results from the corpus study have shown that the adnominal form emerges somewhere between N and I-level. It is acquired after the polite form along with the conclusive form and its development is evidenced by the increase of sentential modifiers and the *no da* construction, which requires this particular form.

Another piece of evidence for the acquisition of the adnominal form is the use of particles such as *dake* "only" and *bakari* "just", that select for this form (cf. Chapter 3). There were several samples with these particles at I and A-levels[1]:

(3) Kankoku-ni-**dake** aru supootu-wa ...
Korea-Loc-only be sports-Top
Sports that are only in Korea ...

(KIM02)

(4) Nihon-e ... ki-ta **bak(k)ari**[2] no toki-ni, ...
Japan-Loc come-Pst just time-Obl
At the time that (I) just came to Japan,

(KIH01)

(5) ... musuko-to asobu-**dake** desu.
my.son-with play-only be
... (I) only play with my son.

(KIM01)

In (3), *dake* is attached to a nominal phrase which is inside the embedded clause. Since it is not at the clause periphery, *no* is not inserted. In (4), however, *bakari* is attached to the embedded predicate *kita* "came." Since, according to our hypothesis, the embedded predicate is not at the clause periphery due to the intervening particle, *no* is correctly inserted. (5) illustrates a case that further supports our hypothesis. The same phrase without *dake* would either be a simple declarative sentence with *asobu* in

[1] *Dake* is also found in EN, but in all the examples it is attached to nouns or adverbs.

[2] *Bakkari* is a colloquial version of *bakari*.

the polite form, as in (6a), or a *no da* construction with an explanatory nuance, as shown in (6b):

(6) a. ... musuko-to asobi-**masu**.
my.son-with play-Pol.Cnc
... *(I) play with my son.*

b. ... musuko-to asobu-**no desu**.
my.son-with play.Adn be
... *(I) play with my son.*

However, with *dake*, the copulative *desu* must appear, as shown in (5). According to our analysis, the latter is present because the main predicate *asobu* is not at the clause periphery and cannot serve for Clausal Typing. Moreover, it does not have the proper value to type the clause as declarative because it is in the adnominal form, so the copulative *desu* undertakes the role of Clausal Typing. Thus, we may say that the speakers at I-level have already acquired the adnominal form.

In Chapter 5, we proposed that the adnominal form may be difficult to acquire for the learner because it is not "salient": it is semantically equivalent to the conclusive form and morphologically indistinct, except for the copula. However, the results of the corpus study have not confirmed this hypothesis. In EI, there were 148 instances of the adnominal form and 116 instances of the conclusive form. In KI, the contrast was even sharper: 323 instances of the adnominal form versus 160 instances of the conclusive form. Thus, contrary to our prediction, the acquisition of the adnominal form is not particularly difficult for the JSL learner when measured in terms of total number of items produced.

With respect to the different inflectional forms, we have observed that verbs develop earlier than adjectives. This was also the case in L1A (cf. Chapter 5), and it may have to do with the different nature of the two categories: a sentence cannot exist without a predicate, but it can without a modifier. So, in a way, it is not surprising that verbs should be more frequent in the learners' speech than adjectives.

We have also observed that morphologically simpler forms develop earlier than more complex ones. In the corpus analysis, the most frequent form was the present affirmative form, followed by the past affirmative and present negative forms. The latter forms involved affixation of one suffix (i.e. "+1" forms). The past negative form, which involved two suffixes (i.e. "+2" form), was the least frequent, either because of the lack of contexts or because of its morphological complexity. In the experiment, the performance was also better on the present affirmative form than the "+1" forms. However, we could not contrast this further with the performance on the past negative form due to insufficient data.

Regarding inflectional errors, there were few in spontaneous speech (i.e. KY corpus) and they were mainly of already familiar forms, such as the present affirmative form or the *te*-form. The fact that inflectional errors are observed when the corresponding forms reach a productive state suggests that learners are conservative and draw back on new and unfamiliar forms. In contrast, many inflectional errors were observed in the experiment. This was presumably due to two factors: first, the speakers were forced to produce inflectional forms and constructions that they still had not mastered; and second, the linguistic input of the participants in the experiment, who live in Spain and study Japanese in an institutional environment, was qualitatively and quantitatively different from that of the speakers of the KY corpus, who live in Japan and are exposed to Japanese in everyday life. In Chapter 5, we saw that children acquire the inflectional paradigm of verbs and adjectives slowly and with errors. We saw some of the overgeneralizations that they make, such as the attachment of the negative suffix *-nai* to the continuative form or the formation of the past negative form with the wrong order of suffixes. The acquisition of inflectional morphology in SLA shares with L1A its gradual nature, but differs from it with respect to the lack of systematic errors.

7.3 On the development of sentential modifiers

In both the corpus analysis and the experiment, we have observed that adjectival

clauses are the first of the sentential modifiers to become productive and that the embedded adjective is typically in the present affirmative form. In Chapter 2, we discussed the syntactic nature of adjectival clauses in Japanese and concluded that they are CP structures. However, given the fact that the majority of adjectival clauses at this early stage are in the "base" form and their function is more attributive than predicative, it may also be that they are non-finite instances of the adjective rather than the present affirmative form. In other words, adjectival clauses at this stage may be instances of reduced structures like small clauses. The possibility that clauses at early stages are reduced has been put forward in hypotheses such as the Minimal Trees Hypothesis (Vainikka & Young-Scholten 1994, 1996) and has also been suggested for L1 acquisition. Since addressing this issue was not part of our initial objectives, I leave it for future research, but if early clauses are indeed reduced, it would mean that Clausal Typing does not take place at this stage of acquisition.

The next types of sentential modifiers to emerge are nominal complements and adverbial relatives. Both constructions are base-generated. Restrictive relatives emerge later. The developmental delay of the latter suggests that Japanese restrictive relatives are different from the other sentential modifiers. This is not expected under Matsumoto (1988, 1997) and Comrie's (2002) claim that Japanese sentential modifiers are all "general noun-modifying constructions", or Murasugi's (1991, 2000) claim that Japanese only has "pure complex NPs" and lacks relative clauses; for if it were so, we would expect sentential modifiers that hold the same semantic relation to the same kind of head noun to develop in a similar fashion. But we have seen that adjectival clauses are much more productive than SU and DO relatives at the stages tested and both of them are modifiers of the embedded subject. Thus, our findings support the hypothesis that Japanese restrictive relative clauses are derived by movement, as in other Indo-European languages, and not base-generated.

Finally, we have observed in the experimental study that the participants' performance in the case of restrictive SU relatives was better than in the case of restrictive DO relatives. This is in accordance with previous studies on the validity of the Noun

Phrase Accessibility Hierarchy (Kanno 2000, Roberts 2000, Hasegawa 2005), and is an expected outcome, if the constructions in Japanese are in fact relative clauses.

7.4 On the overgeneration of *no* in sentential modifiers

7.4.1 Two instances of the phenomenon

The overgeneration of *no* in sentential modifiers has been observed in both the corpus study and the experiment. However, the phenomenon has been exhibited in different ways.

In the corpus study, overgeneration of *no* occurred mostly at I-level, when sentential modifiers had become productive, and consequently, when the adnominal form had been acquired. It was observed across different types of sentential modifiers (adjectival clauses, nominal complements, adverbial relatives, and restrictive relatives) and in most cases, the embedded predicate was in present affirmative and in the correct adnominal form. Its overall frequency was 5.8% on average (5% in KI and 6.6% in EI) and it was observed in seven out of ten speakers in each language group. By A-level, the phenomenon had practically disappeared.

In the experiment, the phenomenon was observed in both groups, but the proficiency level of the participants was lower and sentential modifiers had not reached a productive stage. It was produced by three participants in L-group (N=9) and four participants in H-group (N=9). They all occurred in adjectival clauses. Of the seven instances, three occurred with a correct adnominal form and four occurred with an incorrect form. The overall frequency was 15% in L-group and 13.8% in H-group. Thus, the frequency was lower than in the corpus study in terms of raw numbers, but it was much higher in terms of percentage.

The difference between the two cases suggests that there are two different instances of the phenomenon. In the former, the speakers had already acquired sentential modifiers as well as the adnominal form and *no* was overgenerated across different

constructions. In the latter, the speakers had not yet mastered sentential modifying constructions and their lexical learning of inflectional morphology was incomplete. The phenomenon was only observed in adjectival clauses, which is the most productive construction at that stage, and the embedded predicate was often in a non-target form. Its occurrence was much higher than in the spontaneous data (14.4% versus 5.8%) and fewer speakers exhibited it. As speculated earlier, sentential modifiers are presumably rarely produced in their spontaneous speech and they were only produced because the speakers were forced to do so in the experiment. Thus, not only the proficiency level, but also the setting may have contributed to the differences observed[3].

In connection with this, it is interesting to consider the production data presented in Oga & Akita (2005) (cf. Chapter 5). Before the training sessions, the Chinese speaker overgenerated *no* in 46.9% of his production of sentential modifiers, and the English speaker, 59.4%. After a month of explicit instruction, the overgeneration stopped completely in the case of the Chinese speaker. In the case of the English speaker, who did not happen to receive explicit instruction, the overgeneration rate increased to 81.3%.

What is surprising about Oga & Akita's data is the high frequency of the phenomenon in the two speakers. In our corpus study, the average occurrence of the phenomenon in EI, the level where the phenomenon was observed most, was 6.6%. Assuming that the speakers in Oga & Akita's (2005) study were average learners, this sharp contrast suggests that the high frequency was obtained because the constructions were elicited via an experimental task. Perhaps, if our experiment had been designed in a similar way, we would have observed a higher frequency of the phenomenon.

It would also be interesting to know the proficiency level of the speakers in Oga & Akita's (2005) study, in particular, if they already had acquired the adnominal form or not. If they had not, the high frequency may be a strong support for our hypothesis:

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[3] How they learned Japanese may also be a factor. As mentioned in 6.2, this information is not provided in the KY corpus.

we may say that *no* was inserted for the purpose of Clausal Typing because the adnominal form was unavailable. On the contrary, if they had already acquired the adnominal form, it would mean that the production task had created an artificial situation where the speaker would overgenerate *no* much more than he would in spontaneous speech.

Returning to the two instances of the overgeneration phenomenon, let us see how we could account for them. At the earlier phase, the speakers had not mastered the adnominal inflection and sentential modifiers were scarce. *No* was overgenerated in the more productive constructions (in this case, the adjectival clause), and some of the embedded predicates were not target-like. Our hypotheses (1) and (2) provide a straightforward explanation: the first option permitted in Japanese for typing adnominal clauses, namely, the adnominal form, was not operative, so the second option was adopted and *no* was inserted.

At a later phase, the speakers had already acquired the adnominal inflection and many of the sentential modifiers were productive. The embedded predicate was target-like when *no* was overgenerated. Our hypotheses (1) and (2) cannot account for the latter case. However, recall that in our discussion on the presence of *no* in embedded clauses without overt head nouns (cf. 4.4.2), we hypothesized that there is a PF requirement that demands clauses to be "closed-off" to form a phonological unit. We proposed that *no* is inserted when an embedded clause lacks an overt head noun because the adnominal form in modern Japanese fails to "close-off" the clause and the latter cannot form a phonological unit that would be valid for the affixation of particles. In contrast, *no* is not necessary when the embedded clause has an overt head because it can form a phonological unit with the adjacent noun.

If so, we may interpret the second instance of the phenomenon as an overgeneralization of the "closing-off" of embedded clauses without overt heads. That is, learners may observe in the *no da* construction or the cleft construction that an embedded nominal clause needs *no* at clause-final position and overgeneralize it to constructions with overt head nouns. Incidentally, the *no da* construction also

becomes productive at I-level. Chart 13 shows the number of occurrences of this construction in the corpus data:

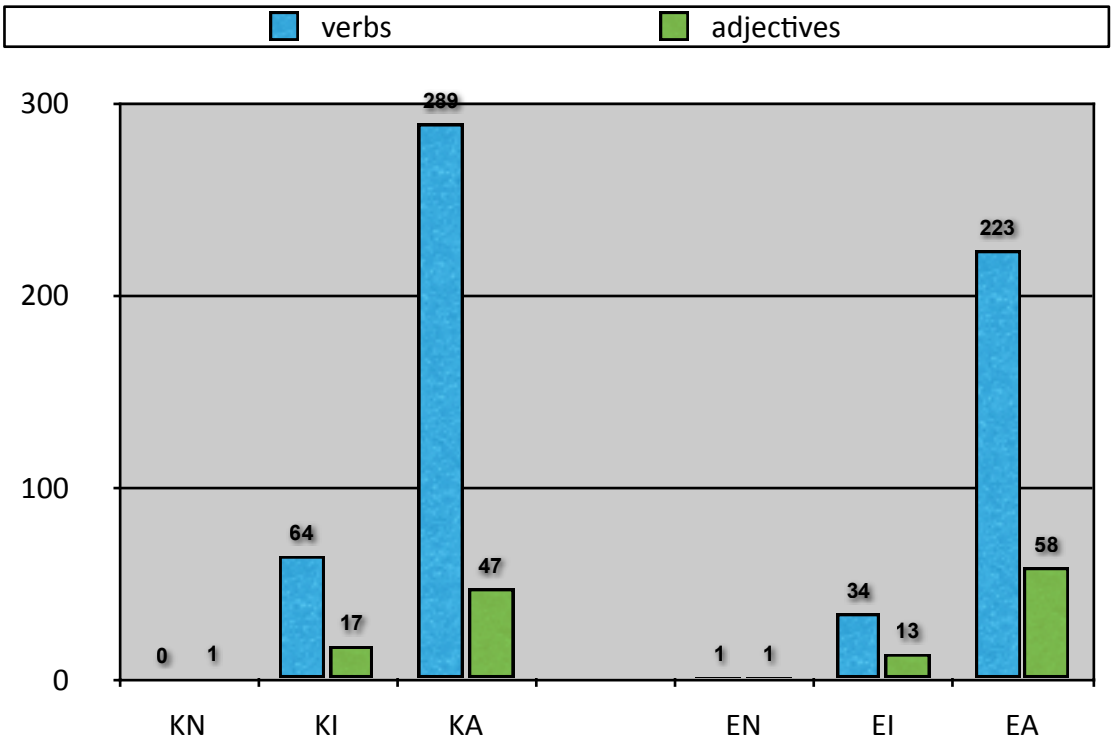

Chart 13. Occurrences of the *no da* construction

We also saw in 6.2.3 that at I-level, there are examples where *no* is missing from null-headed constructions (cf. (64), (65)). Here is example (64) of Chapter 6, repeated here as (7):

(7) ikikaeru *(koto) mo dekiru-si,
relive matter Emp can-Conj
it can also relive

(KIH01)

Given such examples, it may be that learners at I-level still have not acquired how adnominal clauses are "closed-off". However, some questions remain: first, the learners at this stage have plenty of positive evidence that sentential modifiers with overt head nouns do not need *no* and they can also produce them correctly. It is strange then, that they should insert *no* to "close-off" the embedded clause. Second, as

with all optional phenomena in acquisition, we cannot account for the fact that *no* is inserted only optionally.

One may also argue that if the phonological requirement of "closing-off" is the cause of the second instance of the phenomenon, it may also be of the first. In effect, if "closing-off" is a problem for learners at a later stage, it must also be for those at an earlier stage and the occurrences of *no* with correct inflectional forms during the first stage may be attributable to the way clauses are "closed-off". Nonetheless, as we observed in the use of *dake* and *bakari* (i.e. particles that select for the adnominal form), the acquisition of the adnominal form and Clausal Typing seem to be two independent factors in the *no*-overgeneration phenomenon. Otherwise, the difference between the two instances would not be so clear.

7.4.2 On the nature of the overgenerated 'no'

Let us now reconsider the nature of the overgenerated-*no* in light of our findings. There were various proposals presented in Chapter 4 for the case in L1A: *no* as a genitive marker (Clancy 1985); *no* as a pronoun (Nagano 1960); *no* as a D-element (Hoshi 2005); and *no* as a complementizer (Murasugi 1991).

The first hypothesis, namely, that the overgenerated-*no* is a genitive marker, was based on Slobin's (1985) Operating Principle, according to which, the learner (i.e. the child in L1 acquisition) extends the modifying function of the genitive marker in nominal modifiers ([NP *no* NP]) to other constructions. In fact, at the time when L2 learners first overgenerate *no* in adjectival clauses, they have not yet come across other types of sentential modifiers or clausal arguments. Since the only *no* that they (supposedly) know is the genitive *no*, it is natural to suspect that the overgenerated-*no* in SLA is an extended use of the genitive.

Alternatively, it may be that learners initially analyze adjectives as a nominal category. This is not so far-fetched because adjectives are a nominal category in Indo-

European languages (i.e. it is not inflected for tense) and nominal adjectives in Japanese are accompanied by the copula. Learners may overgenerate *no* in adjectival modification as the result of extending the modifying function of noun phrases in genitive constructions[4].

However, the hypothesis does not hold for adjectives that have clausal structures, such as the following:

(8) [Enzin-ga sizuka-na] kuruma
engine-Nom quiet-Adn car
car that the engine is quiet

In (8), there is an embedded subject. Likewise, it does not hold for the case of nominal complements or adverbial relatives, which are the next in line to emerge, because the genitive marker cannot attach itself to clausal structures. If we are to adopt this proposal, we would have to establish another type of *no* for the latter cases.

The second hypothesis, namely, that the overgenerated-*no* is a pronoun, supposed that it was like the *no* that attaches when a sentential modifier lacks an overt head and its interpretation is pronominal:

(9) Watasi-wa [*pro* ooki-i] **no**-o mi-ta.
I-Top big-Adn -Acc see-Pst
I saw a big one (=car).

We already discussed the problems of this proposal in Chapter 4. According to our analysis, (9) is headed by a null pronoun. What can be added here is that the overgenerated-*no* is unlikely to be a pronoun, because if it were, we would have a pronominal head directly followed by an overt head, which is ungrammatical in Japanese. We would need another genitive marker *no* in order to form the nominal modification construction [[$_{NP}$AP *no*] *no* NP] (e.g. *ookii no no enzin* "engine of the big one").

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[4] As speculated in 7.3, one could analyze the structure of the adjectival clause at this stage as a small or reduced clause.

The third hypothesis, namely, that the overgenerated-*no* is a D-element, was based on Kayne's (1994) analysis of head-final relative clauses and assumed that the overgenerated-*no* was a potential licenser of null nominal complements (cf. Chapter 4). This hypothesis may hold for the case of restrictive relatives, but as we have seen throughout, the phenomenon is observed in sentential modifiers in general and none except for relative clauses has a [D CP] structure. If we are to maintain this hypothesis, we would have to establish a different type of *no* for the other cases. Together with the first hypothesis, we would then have to have three different types of *no*: the genitive *no* for the case of early adjectival clauses, a second type of *no* for the case of nominal complements, adverbial relatives and appositive relatives, and the D-element *no* for the case of restrictive relatives. This is not a desirable result.

The last hypothesis, namely, that the overgenerated-*no* is a complementizer was the less controversial one in our discussion. However, as pointed out in 4.3, *no* is different from other complementizers, such as the English *that*: morphologically, it is a bound morpheme and syntactically, it selects for a CP. Thus, one may argue that the overgeneration exhibited by L1 English and L1 Spanish speakers is the result of L1 transfer (i.e. *that* and *que* respectively). But according to the Clausal Typing hypothesis proposed in (1), Japanese lacks this type of complementizers (i.e. those that are free morphemes) entirely.

In Chapter 4, we analyzed the various contexts in which *no* is inserted in sentential modifiers and reached the conclusion that *no* is a C-element located in ForceP, whose function is to achieve Clausal Typing of adnominal clauses when the adnominal form is not available. This *no* shares with the Prenominal Modification Marker (MOD) proposed by Kitawaga & Ross (1982) the property of indicating that the embedded clause is a modifier or complement to the head noun. It also has the advantage of accounting for the cases of *no* in Japanese that previous hypotheses could not account for. Moreover, as argued in the previous section, it provides a logical account for the fact that *no* is overgenerated across syntactically different types of sentential modifiers. Thus, we may maintain our hypothesis that the overgenerated *no* is a bound

morpheme that belongs to Force Phrase of the Complementizer system.

Furthermore, we have proposed that there is another *no* that is inserted at PF to "close-off" the embedded clause. In the sense that it turns a clause into a nominal element and enables the affixation of Case markers, it is a "nominalizer", as has been assumed in previous studies (cf. Kuroda 1974). Here, we have simply assumed this *no* to be an element of PF.

7.4.3 On the overgeneration of 'no' in L1A

As we saw in Chapter 5, children's acquisition of the inflectional paradigm is gradual and the overgeneration of *no* occurs more or less at the same time as the development of the inflectional paradigm. Thus, the insertion of *no* may be for the purpose of Clausal Typing, because the adnominal form is not fully acquired and the first option is not available. It may also be caused by overgeneralizing the "closing-off" function of *no* to embedded clauses with overt heads. As in the case of SLA, this would account for the later stage of the phenomenon when inflectional forms are mastered but *no* continues to be overgenerated.

Consequently, according to our hypotheses, the overgeneration of *no* observed in L1 and L2 acquisition are of the same nature: on the one hand, it is due to an underdeveloped inflectional paradigm that prevents Clausal Typing to be implemented in the proper way; on the other hand, it is due to an overgeneralization in "closing-off". If our proposal is on the right track, the phenomenon would provide evidence that UG restricts SLA and that second language learners go through the same process as children do in this aspect of acquisition.

7.5 Crosslinguistic differences

In this final section, let us consider the question of whether the acquisition of Japanese sentential modifiers would be easier if the L1 is typologically similar to

Japanese.

In the corpus study, we compared the production of L1 Korean speakers with that of L1 English speakers. At the intermediate level, the production of adnominal forms in EI (L1 English intermediate-level) was about half of that in KI (L1 Korean intermediate-level), and consequently there were less sentential modifiers in EI than in KI. Otherwise, however, there was no significant difference between the two groups in terms of the developmental patterns: the adnominal form developed after the polite form, along with the conclusive form, and it developed from the "base" form (without suffixes) to "+1" and "+2" forms (with suffixes). With respect to the different types of sentential modifiers, the first ones to emerge were the base-generated constructions such as adjectival clauses and nominal complements, and restrictive relative clauses, which, according to our hypothesis involve movement, emerged later. The frequency and manifestation of the *no*-overgeneration phenomenon was also similar between the two languages.

In the experimental study, we also observed that the L1 Spanish participants performed better on the "base" form than on "+1" and "+2" forms. They were also more successful in adjectival clauses and nominal complements than in restrictive relative clauses. In this regard, their course of development was similar to that of L1 Korean and L1 English speakers. However, we cannot contrast our results here on the *no*-overgeneration phenomenon with those in the corpus study, because the L1 Spanish speakers had a lower level of proficiency than the L1 Korean and L1 English speakers and sentential modifying constructions were still under development. In addition, as mentioned in 7.4.1, we do not know at this point how the different settings (i.e. spontaneous and experimental) may have influenced the manifestation of the phenomenon.

Nonetheless, the fact that there was no significant difference observed between L1 Korean and L1 English speakers suggests that the typological proximity of the L1 does not facilitate the acquisition of Japanese sentential modifying constructions. According to our analysis, the adnominal form plays a central role in Japanese

sentential modifying constructions and its mastery is essential for sentential modifiers to be produced correctly. As we have seen in Chapter 4, this particular form in Modern Japanese has suffered diachronic changes and the L2 learner must learn its language-particular aspects as well as its inflectional morphology. That is why the fact that the L1 also has the adnominal form, as in the case of Korean, does not help the acquisition of these constructions in Japanese.

We have also proposed that the role of the adnominal form is to satisfy two phonological requirements that apply to clauses in general, namely, Clausal Typing and the requirement that clauses must be "closed off". For both requirements, we have claimed that in the case of Japanese, the adnominal form is the preferred option to satisfy them and the particle *no* plays a secondary role. Thus, with respect to the *no*-overgeneration phenomenon, we have suggested that *no* is overgenerated because the adnominal form is still under development and the phonological requirements are not met in the target-like way. If we are on the right track in assuming that the *no*-overgeneration phenomenon is ultimately attributed to the acquisition of the adnominal form, it should be observed similarly among L1s that are typologically similar to Japanese and those that are not. The fact that the phenomenon has been observed in a similar way among L1 Korean and L1 English speakers gives support to our proposal.

Conclusions

The present thesis has dealt with the SLA of Japanese nominal modifying constructions, in particular, of sentential modifiers. It has also focused on a specific phenomenon in which learners insert *no* between the modifying clause and the head noun. The so-called "*no*-overgeneration phenomenon" is interesting for several reasons: first, because it is observed across different types of sentential modifiers; second, because it is observed among L2 learners of typologically different L1's; and third, because a very similar phenomenon has been observed in L1A. On the first point, we wanted to identify the common factor that caused the overgeneration phenomenon during the acquisition process and provide an explanation. The second point suggested that this phenomenon was caused by some language-particular property of Japanese. We wanted to know what this was and what would trigger its presence. The third point was especially interesting because, if the facts suggested that the phenomenon in SLA and that in L1A were of the same nature, it would constitute evidence that SLA follows the same path as L1A in this respect and that it is restricted by the same universal principles, namely, Universal Grammar. On the contrary, if it was suggested that the two instances were different, that would provide evidence that SLA is fundamentally different from L1A in this respect.

We started out with a review of the syntactic analysis of the relevant sentential modifying constructions. In Chapter 1, we dealt with the genitive construction. We saw that the construction in Japanese expresses a wide range of semantic relationships. Syntactically, we observed that despite the name "genitive", the prenominal modifier can also be a quantifier phrase or a postpositional phrase that does not necessarily involve Case-marking. Finally, we considered the identity of *no* when the construction lacks an overt head noun (viz. null-headed genitive construction). We argued against the view that *no* is a pronominal element (cf. Okutsu 1974) and supported the hypothesis that *no* is a Prenominal Modification Marker (MOD) (Kitagawa & Ross 1982, Kitagawa 2005) and that the null-headed genitive construction has a head noun, namely, a *pro*.

In Chapter 2, we looked at adjectival modification. Japanese has two types of adjectives: “canonical adjectives” and “nominal adjectives”. The former is similar to verbs in that it is inflected for tense and negation. The latter is accompanied by the copula, which carries temporal and negative inflections. Adjectival phrases have been claimed to have a relative-clause-like structure. We presented three pieces of evidence that support this view (i.e. the lack of reading ambiguity, the unavailability of comparative deletion, and word order phenomena in stacking). In addition, we saw examples in which adjectival clauses contain C-elements such as the interrogative marker *-kadooka* “whether” or the focus particle *-dake* “only”. We concluded that Japanese adjectival clauses are CP-structures.

In Chapter 3, we studied the syntax of sentential modifiers, in particular, nominal complements, gapless relatives, and restrictive relative clauses. After reviewing the basic properties of these constructions, we discussed the debate on the syntax of restrictive relative clauses in Japanese, namely, whether they are base-generated and should be treated as complex NPs, or they are derived by movement, as is claimed to be the case in many Indo-European languages. We presented recent developments on the evidence that originally supported the base-generation hypothesis, and adding other pieces of evidence, we supported the view that Japanese restrictive relatives are derived by A-bar movement of the head noun. Furthermore, as a question for future research, we pointed out that the embedded clause in Japanese restrictive relatives is a CP and that this is not expected under Kayne’s (1994) analysis of head-final relative clauses, which assumes that the fronted embedded clause is an IP.

Throughout the study of sentential modifiers (including adjectival clauses), we noted that the embedded predicate must be in a particular form, namely, the adnominal form, and that in certain contexts, for instance, when the construction lacks an overt head noun, *no* must be present at the end of the embedded clause. By contrasting the functions of the adnominal form in Classical Japanese with those in Modern Japanese, we found that not only has the adnominal form been phonologically reduced in Modern Japanese, but its functions have also been reduced, and *no* is inserted in

Modern Japanese as a complementary measure.

Basing our ideas on Cheng's (1991) Clausal Typing Hypothesis, we proposed that the adnominal form and *no* play a central role in typing the embedded clause as "nominal". In particular, we interpreted Clausal Typing as a requirement at PF and proposed the following revised version of the Clausal Typing Hypothesis, adopting Rizzi's (1997, 1999) articulated CP-system:

(1) Revised Clausal Typing Hypothesis
The force (or the type) of each clause is the projection of a (typing) value given to Force^0 and it must be visible at PF.

As for the actual process of the Clausal Typing of adnominal clauses, we proposed the following:

(2) Clausal Typing of adnominal clauses
Adnominal clauses are typed by one of the following strategies, whose order is determined by the Principle of Economy of Derivation (Chomsky 1989):
(i) a verbal suffix (i.e. the adnominal form);
(ii) a particle;
(iii) a free morpheme (e.g. complementizer).

Our hypothesis provided a natural account for why Japanese lacks relative complementizers and relative pronouns and why English presents the opposite situation to that of Japanese. Furthermore, our hypothesis accounted for the presence of *no* in contexts where previous proposals could not predict such a presence (e.g. Kitagawa & Ross 1982).

There was another instance of *no* that needed to be accounted for, namely, its presence when a sentential modifier lacked an overt head noun, or in clausal arguments such as cleft constructions or head-internal relative clauses. Adopting insights from previous

studies, namely, that *no* is inserted for "conceptual clarity" (Kitagawa & Ross 1982) or for visibility at PF (Hoshi 2005); and considering that *no* in these cases does not play any syntactic or semantic role in the phrase, we proposed the following phonological requirement:

(3) Clauses must be "closed-off" in order to form a phonological unit.

Again, by referring to Classical Japanese, we found that the adnominal form sufficed to "close-off" embedded clauses in Classical Japanese, allowing the affixation of particles, whereas in Modern Japanese, *no* is required at the clause-final position. Thus, we hypothesized that the adnominal form in Modern Japanese has lost the ability to "close-off" embedded clauses and that *no* is inserted to complement this function.

Summarizing thus far, according to our analysis, the different types of sentential modifiers have in common that they must be typed as "nominal" at ForceP and this is done by the adnominal form, or by *no*, when the former is not available. In our view, the *no* inserted in such cases is a C-element whose function is to provide the value necessary for Clausal Typing. There is another *no* that is inserted in order to fulfill the phonological requirement that clauses must be "closed-off". The latter *no* is a purely phonological element.

Having dealt with the theoretical issues, we proceeded to study the SLA of sentential modifiers and the *no*-overgeneration phenomenon. We made the following hypothesis on the overgeneration of *no*:

(4) *No* is overgenerated in sentential modifiers because Clausal Typing of the embedded clause fails to be achieved by the adnominal form.

The results of the corpus analysis revealed that the adnominal form develops along with the conclusive form and, contrary to our speculation that the adnominal form would be difficult to acquire because it is not "salient", we found that it was as

productive as or more productive than the conclusive form. The adnominal form was first observed in adjectival clauses and in most cases, it appeared in the present affirmative form. Next, nominal complements and adverbial relative clauses became productive and restrictive relative clauses emerged later. As for the inflectional forms, we observed that as the constructions became more productive, forms that involve affixation (i.e. the present negative form, the past affirmative form) started to appear. The past negative form, which involves the affixation of two suffixes, also appeared at a later stage, but the overall occurrence was low compared to other forms. Inflectional errors were rare and in most cases, they occurred with already productive forms, indicating that L2 learners were conservative and tended to avoid forms that were still unfamiliar to them.

Similar tendencies were observed in the elicited production task: adjectival clauses and nominal complements were the most successful and restrictive relatives (SU-relatives and DO-relatives) were less successful. Overall, the participants of the study were still at a level where sentential modifiers were not productive. There were more inflectional errors than in the corpus study and the success rate of producing the target constructions was low.

The fact that nominal complements and adverbial relative clauses are acquired earlier than restrictive relative clauses gives empirical support to our conclusion that restrictive relatives in Japanese are derived by movement; for if they were base-generated like nominal complements and adverbial relatives, we would have expected them to be acquired at the same time. The evident delay suggested that they are different from nominal complements and adverbial relatives. Furthermore, in the elicited production task, we observed that the participants were more successful with SU relatives than with DO relatives. This tendency was in accordance with the NPAH (Keenan & Comrie 1977) and supported our conclusion that Japanese has the restrictive relative construction.

With respect to the *no*-overgeneration phenomenon, it was observed both in the corpus study and in the elicited production task. However, the manifestation of the

phenomenon in the two cases was different, which led us to discover two different instances of the phenomenon. The first one was exhibited by the L1 Spanish speakers in the elicited production task. At their level of proficiency, sentential modifiers were not productive since the inflectional paradigm was still not mastered. The phenomenon occurred in adjectival clauses and the form of the embedded adjective was often non-target. It was observed at an average rate of 14.4% and seven out of 18 participants exhibited it.

In the second instance, *no*-overgeneration was observed in the oral production data of L1 Korean and L1 English speakers. The adnominal form was already acquired and sentential modifiers were productive. The phenomenon was observed in different constructions and in most cases the embedded predicate was target-like. Its frequency was on average 5.8% and seven out of ten people exhibited it.

Our hypothesis on the *no*-overgeneration phenomenon, shown in (4) above, provided a natural account for the first instance of the phenomenon. Assuming that Clausal Typing is a universal requirement, the sentential modifiers produced must have satisfied this requirement. However, the inflectional paradigm of the adnominal form at this point was still under development. According to our hypothesis, *no* was inserted because the first option permitted in Japanese to type the nominal clause, the adnominal form, was not available, which led to the adoption of the second preferred option.

However, the same hypothesis could not account for the second instance, because the adnominal form had already been acquired, so Clausal Typing would have been achieved correctly. We speculated that the second phase of this phenomenon was due to the phonological requirement of "closing-off" clauses. In fact, the *no da* construction becomes productive at the same time and there are examples where *no* is omitted when necessary. These facts suggested that learners at this stage had not yet mastered how adnominal clauses are "closed-off" and had overgeneralized the use of *no* to cases where it is not necessary.

If our proposals are on the right track, the *no*-overgeneration phenomenon in sentential modifiers is ultimately caused by the phonological aspects of the adnominal form in Modern Japanese. In the case of Clausal Typing, since the latter is a universal requirement and the ways to fulfill it are determined by a principle of economy, the task of the L2 learner is to acquire the language-particular strategies, which, in the case of Japanese is the adnominal form and alternatively, *no*. The phonological requirement of "closing-off" clauses is also a universal requirement and the L2 learner must acquire how clauses are closed-off in that particular language. In the case of Modern Japanese, the adnominal form alone cannot close-off the embedded clause and requires the presence of a head noun or a *no*.

The above discussion has led to some answers to the questions posed on the *no*-overgeneration phenomenon. First, the phenomenon is observed across different types of sentential modifiers because they share in common that fact that they are "nominal" by type and the embedded predicate is in the adnominal form. Second, the phenomenon is observed among L2 learners of typologically different L1s because it is caused by a language-particular property of Japanese. In effect, there was no significant difference between the learning of L1 Korean and L1 English speakers. Third, a similar phenomenon is also observed in L1A, because Japanese children learn inflectional paradigms gradually, and as such, the adnominal form is not fully operative until it is mastered. Since all other aspects of Clausal Typing and the "closing-off" of clauses are universal, the phenomenon in L1A is of the same nature as that in SLA. Consequently, we may conclude that the universal principles regarding sentential modifiers that guide L1A are also effective in SLA.

Finally, our hypotheses have depended heavily on phonology and PF, but we still know very little about the nature of the principles or the characteristics of the requirements that apply to clauses at that level. If Clausal Typing is indeed a PF requirement, it should respect other PF requirements and the actual process of how the typing value assigned in syntax is translated to PF should be defined. Likewise, the process of "closing-off" should be defined in relation to the formation of

phonological units. We leave these issues for future research.

This dissertation has provided data on the general course of second language acquisition of nominal modifying constructions in Japanese. It has also looked into the *no*-overgeneration phenomenon in sentential modifiers and has provided new explanations that concur with the language-particular properties and diachronic changes of the Japanese language. We hope that the findings and proposals made in this thesis will be further tested and developed in future research.

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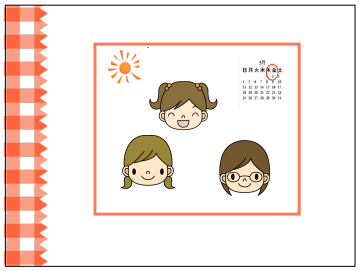
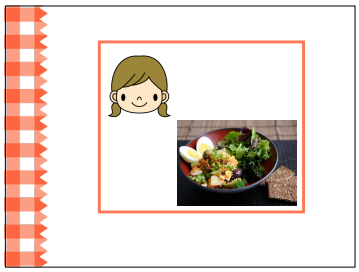
Appendix 5. Script of the stories in the elicited production task

(i) Training stories

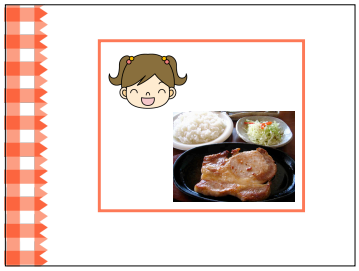
Rensyuu iti
practice one
Practice one



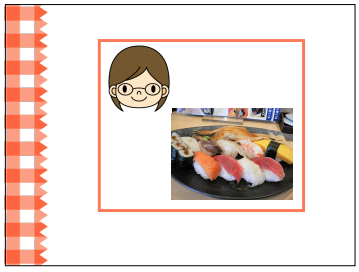
Kinyoobi-ni tomodati-to san-nin-de gohan-o
Friday-on friends-with three-people-by meal-Acc
tabemasita.
ate
On Friday, friends with, three people, we had a meal.



Watasi-wa sarada-o tabemasita.
I-Top salad-Acc ate
I ate a salad.

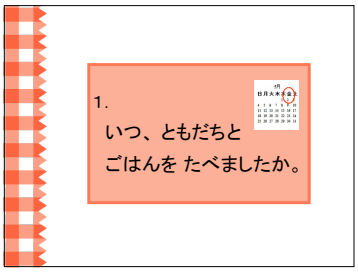


Kanozyo-wa niku-o tabamasita.
she-Top meat-Acc ate
She ate meat.

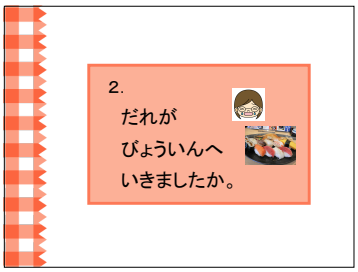


Kanozyo-wa susi-o tabamasita.
she-Top susi-Acc ate
She ate susi.

Sorekara, kanozyo-wa onaka-ga itaku-natte
Later-on she-Top stomach-Nom hurt-get
byooin-e ikimasita.
hospital-to went
Later on, she got a stomach ache and went to the hospital.

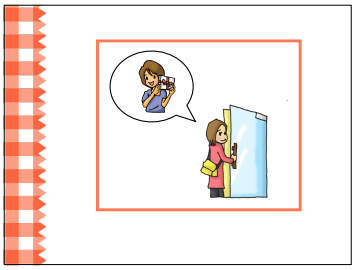


Iti: Itu tomodati-to gohan-o tabemasita-ka?
one when friends-with meal-Acc ate-Int
One: When did (I) eat a meal with (my) friends?



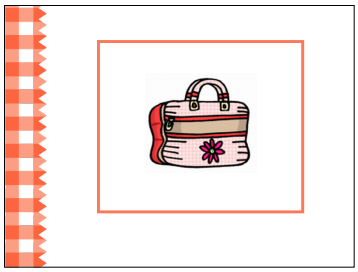
Ni: Dare-ga byooin-e ikimasita-ka?
two who-Nom hospital-to went-Int
Two: Who went to the hospital?

Rensyuu ni.
practice two
Practice 2

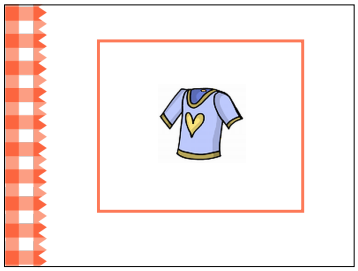


Keiko-san-wa depaato-e tomodati-no
Keiko-Cpl-Top department-store-to friend-of
purezento-o kai-ni ikimasita.
present-Acc buy-to went
Keiko went to the department store to buy a present for a friend.

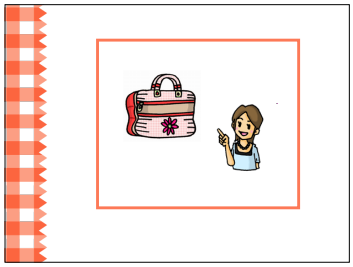
Kono kaban-wa ima totemo yuumei-desu.
this bag-Top now very famous-is
This bag is now very famous.



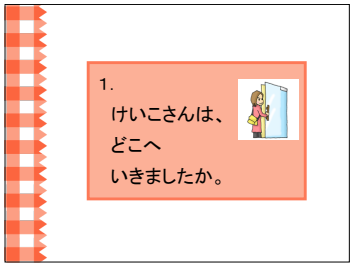
Kore-mo onaji kaban desu-ga, akai-desu.
this-too same bag is-but red-is
This too is the same bag, but (it) is red.



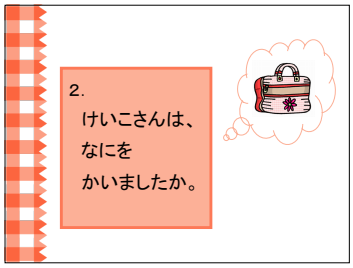
Kono T-syatu-wa aokute kawaii-desu.
this T-shirt-Top blue-and cute-is
This T-shirt is blue and cute.



Keiko-san-wa kore-o kaimasita.
Keiko-Cpl-Top this-Acc bought
Keiko bought this.

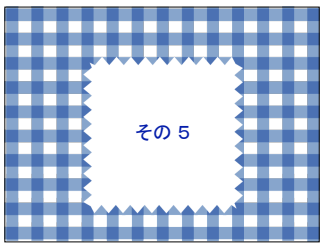


Iti: Keiko-san-wa doko-e ikimasita-ka?
one Keiko-Cpl-Top where-to went-Int
One: Where did Keiko go?

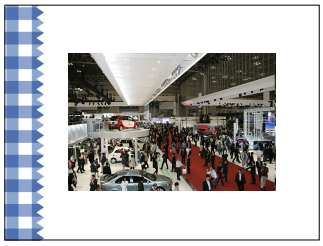


Ni: Keiko-san-wa nani-o kaimasita-ka?
two Keiko-Cpl-Top what-Acc bought-Int
Two: What did Keiko buy?

(ii) **Adjectival clauses (AC)**



Sono go
of-that five
Number five



Taroo-san-wa atarasii norimono-o takusan
Taroo-Cpl-Top new vehicles-Acc a.lot
mimasita.
saw
Taroo saw a lot of new vehicles.

Kore-wa amerika-no kuruma desu.
this-Top America-of car is
This is an American car.

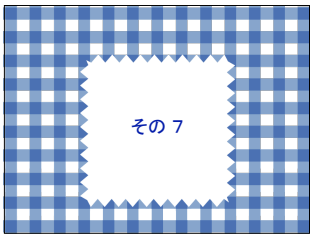
Kono baiku-wa totemo hayai-desu.
this motorbike-Top very fast-is
This motorbike is very fast.

Kono kuruma-wa enzin-ga sizuka-desu.
this car-Top engine-Nom quiet-is
This car the engine is quiet. (=The engine of this car is quiet)

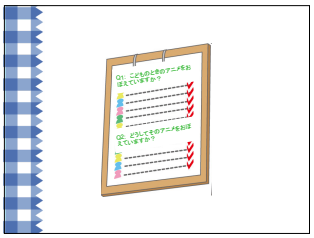
Taroo-san-wa kore-ni norimasita.
Taroo-Cpl-Top this-to got.on
Taroo got on this car.

Iti: Taroo-san-wa dono norimono-ni norimasita-ka?
one Taroo-Cpl-Top which vehicle-to went-Int
One: Which vehicle did Taroo get on?

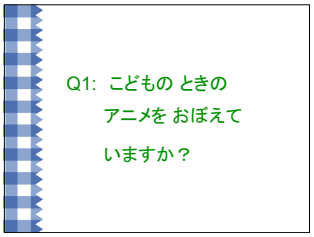
Ni: Kono baiku-wa doo desu-ka?
two this motorbike-Top how is-Int
Two: How is this motorbike?



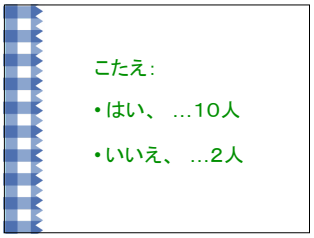
Sono nana
of-that seven
Number seven



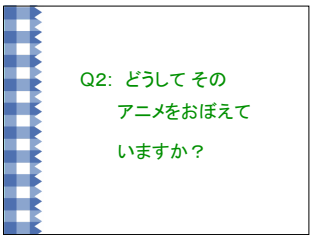
Gakusei-ni anime-no ankeeto-o simasita.
students-to anime-of survey-Acc did
(We) did a survey on students about anime.



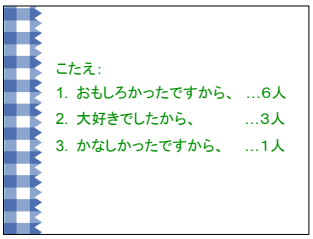
Kodomo-no toki-no anime-o oboete-imasu-ka,
child-of when-of anime-Acc remember-Int
to iu situmon-no kotae-wa
that say question-of answer-Top
The answer to the question, "Do you remember the anime of when (you were) a child?"



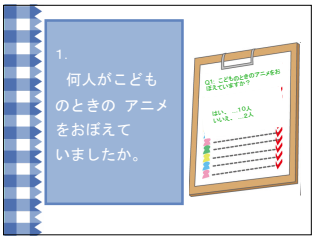
Hai-ga zyuu-nin, iie-ga futari desita.
yes-Nom ten-people no-Nom two.people was
was "yes", ten people, "no", two people.



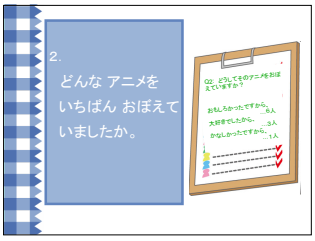
Doosite sono anime-o oboete-imasu-ka, to
why that anime-Acc remember-Int that
iu situmon-no kotae-wa,
say question-of answer-Top
The answer to the question, "Why do you remember that anime?"



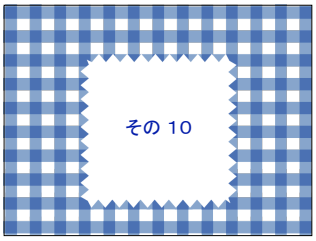
omosirokattadesu-kara-ga roku-nin, daisuki-
was.fun-because-Nom six-people, favorite-
desita- kara-ga san-nin, kanasikattadesu-
was- because-Nom three-people, sad-was-
kara-ga hitori desita.
because-Nom one.person was
was "because it was fun", six people, "because it was (my) favorite", three people, "because it was sad", one person.



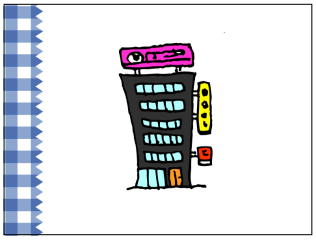
Iti: Nan-nin-ga kodomo-no toki-no
one how.many-person-Nom child-of when-of
anime-o oboete-imasita-ka?
anime-Acc remembered-Int
One: How many people remembered the anime of when (they were) a child?



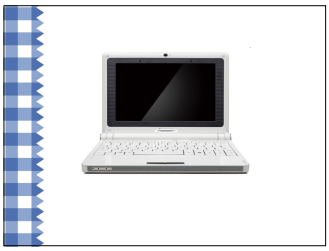
Ni: Donna anime-o itiban oboete-imasita-ka?
two what.kind anime-Acc most remembered-Int
Two: What kind of anime did they remember best?



Sono zyuu
of-that ten
Number ten



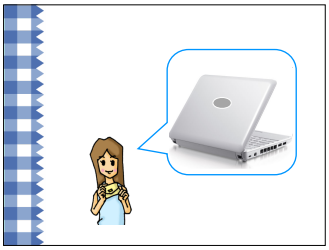
Tie-san-wa konpyuutaa-o kai-ni ikimasita.
Tie-Cpl-Top computer-Acc buy-to went
Tie went to buy a computer.



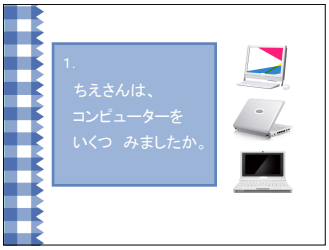
Kono pasokon-wa dezain-ga
this laptop-Top design-Nom
suki-dewa-arimasendesita.
did.not.like
This laptop, (she) did not like the design.

Kono konpyuutaa-wa omokattadesu.
this computer-Top was.heavy
This computer was heavy.

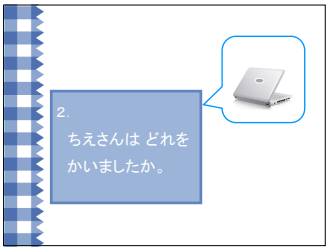
Kono pasokon-wa omokunakattadesu.
this laptop-Top was.not.heavy
This laptop was not heavy.



Tie-san-wa kore-o kaimasita.
Tie-Cpl-Top this-Acc bought
Tie bought this computer.

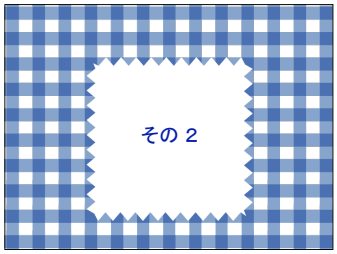


Iti: Tie-san-wa konpyuutaa-Acc ikutu
one Tie-Cpl-Top computer-Acc how.many
mimasita-ka?
saw-Int
One: How many computers did Tie see?

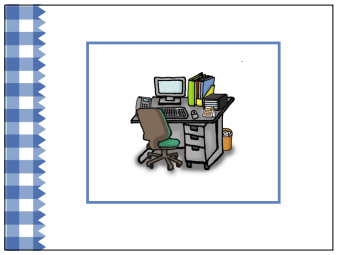


Ni: Tie-san-wa dore-o kaimasita-ka?
two Tie-Cpl-Top which.one-Acc bought-Int
Two: Which one did Tie buy?

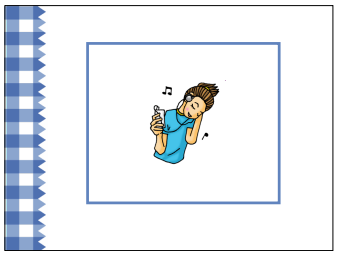
(iii) **Nominal complements (NC)**



Sono ni
of-that two
Number two



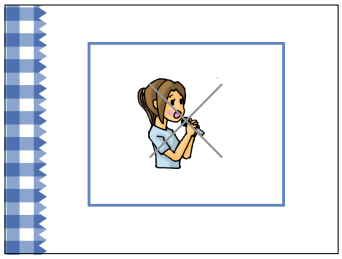
Mariko-san-wa kaisyain desu.
Mariko-Cpl-Top company-employee is
Mariko is a company employee.



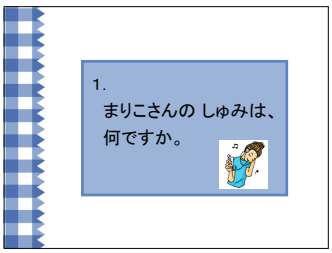
Kanozyo-wa ongaku-o kiku-no-ga totemo
she-Top music-Acc listen-Nml-Nom very
sukidesu.
like
She likes listening to music very much.

Uti-ni-wa CD-ga takusan arimasu.
home-at-Top CD-Nom a.lot are
At home, there are a lot of CDs.

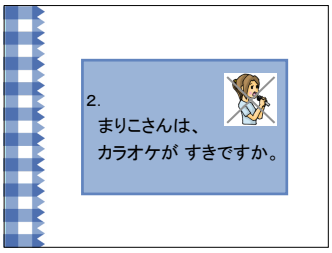
Tokidoki konsaato-ni ikimasu.
sometimes concert-to go
Sometimes (she) goes to concerts.



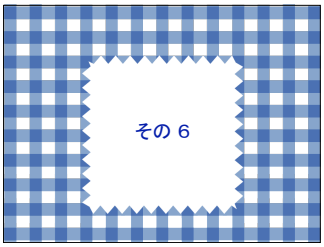
Demo karaoke-wa suki-dewa-arimasen.
but karaoke-Top like-not
But she does not like karaoke.



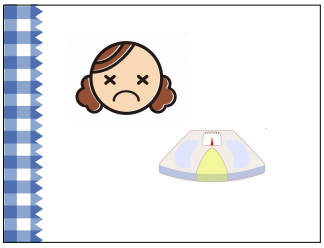
Iti: Mariko-san-no syumi-wa nan desu-ka?
one Mariko-Cpl-of hobby-Top what is-Int
One: What is Marikos hobby?



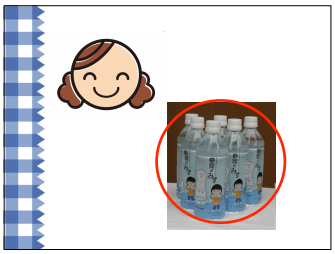
Ni: Mariko-san-wa karaoke-ga suki-desu-ka?
two Mariko-Cpl-Top karaoke-Nom like-is-Int
Two: Does Mariko like karaoke?



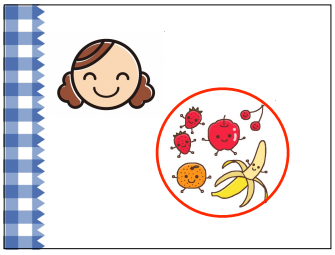
Sono roku
of-that six
Number six



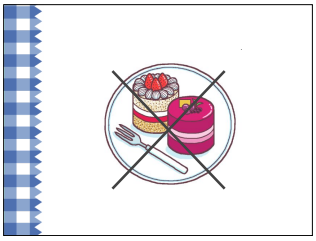
Kimura-san-wa ik-kagetsu daietto-o simasita.
Kimura-Cpl-Top one-month diet-Acc did
Kimura did a diet for a month.



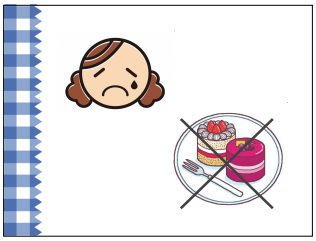
Mainiti mizu-o takusan nomimasita.
everyday water-Acc a.lot drank
Everyday (she) drank a lot of water.



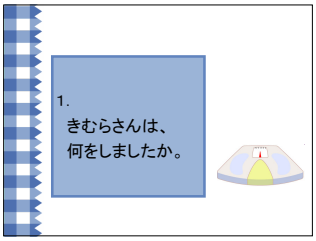
Furuutu-mo takusan tabemasita.
fruits-to a.lot ate
(She) also ate a lot of fruit.



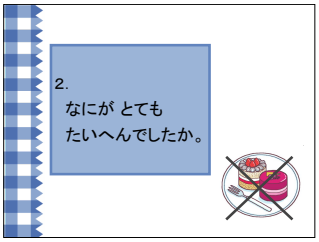
Demo keeki-wa tabemasendesita.
but cake-Top did.not.eat
But (she) did not eat cakes.



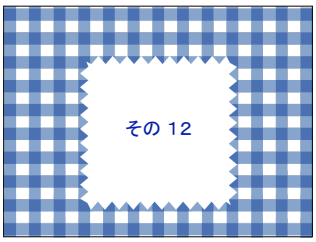
Kimura-san-wa keeki-ga daisuki-desu-kara,
Kimura-Cpl-Top cake-Nom favorite-is-so
totemo taihen-datta-to iimasita.
very difficult-was-that said
Kimura's favorite are cakes, so (she) said that it was very difficult (not to eat cakes).



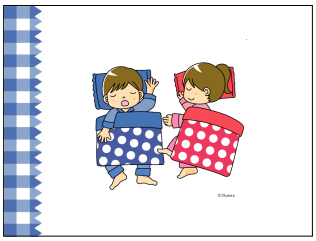
Iti: Kimura-san-wa nani-o simasita-ka?
one Kimura-Cpl-Top what-Acc did-Int
One: What did Kimura do?



Ni: Nani-ga totemo taihen-desita-ka?
two what-Nom very difficut-was-Int
Two: What was very difficult?



Sono zyuuni
of-that twelve
Number twelve

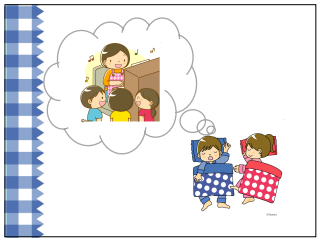


Kodomotati-wa kyoo-mo sensei-to iroirona
children-Top today-also teacher-with various
koto-o simasita.
things-Acc did
The children, also today, did various things with the teacher.

Kodomotati-wa sensei-to hon-o yomimasita.
children-Top teacher-with book-Acc read
The children read a book with the teacher.

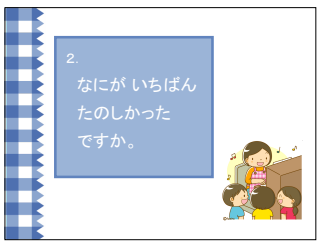
Sorekara, sanpo-o simasista.
and.then walk-Acc did
And then, they did(took) a walk.

Sosite, uta-o utaimasita.
And songs-Acc sang
And (they) sang songs.



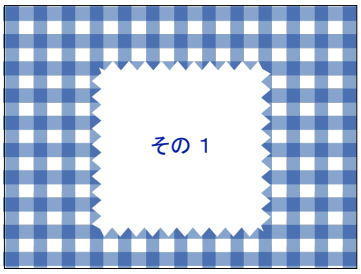
Kore-ga itiban tanosikattadesu.
this-Nom most was.fun
This was the most fun.

Iti: Kodomotati-wa sensei-to hon-o yomimasita-ka.
one children-Top teacher-with book-Acc read-Int
One: Did the children read a book with the teacher?

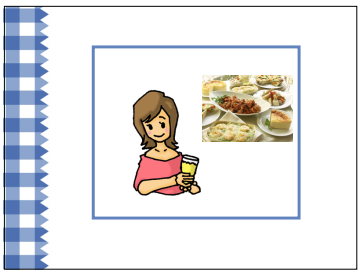


Ni: Nani-ga itiban tanosikattadesu-ka?
two what-Nom most was.fun
What was the most fun?

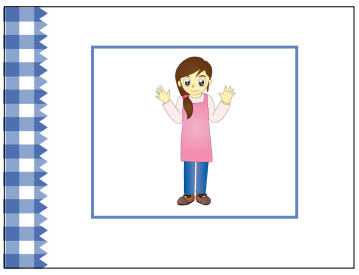
(iv) **SU relative clauses (SU)**



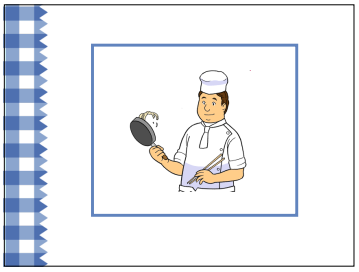
Sono Iti
of-that one
Number one



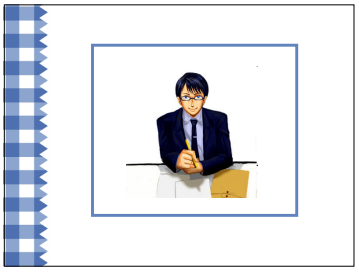
Yumi-san-wa paathi-de iroirona hito-to
Yumi-Cpl-Top party-at various person-with
hanasimasita.
talked
Yumi talked with various people at the party.



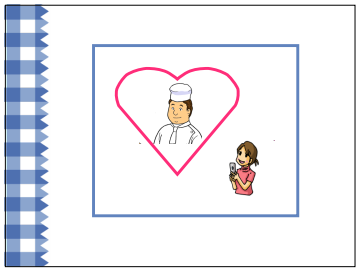
Kono hito-wa ryoori-no sensei desu.
this person-Top cooking-of teacher is
This person is a cooking teacher.



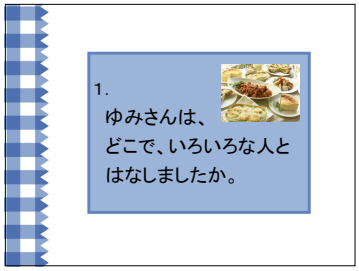
Kono hito-wa resutoran-de hataraite-imasu.
this person-Top restaurant-at works
This person works at a restaurant.



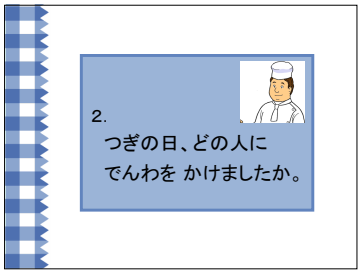
Kono hito-wa resutoran-o motte-imasu.
this person-Top restaurant-Acc has
This person has a restaurant.



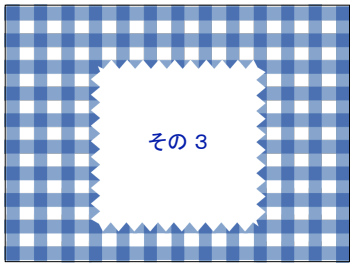
Tugi-no hi, Yumi-san-wa kono hito-ni denwa-o
next-of day Yumi-Cpl-Top this person-to call-Acc
kakemasita.
make
The next day, Yumi made a call to this person.



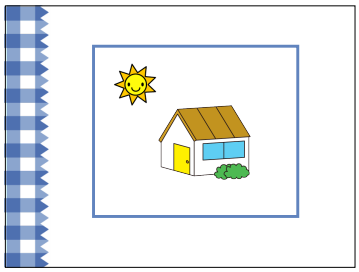
Iti: Yumi-san-wa doko-de iroirona hito-to
one Yumi-Cpl-Top where-at various person-with
hanasimasita-ka?
talked-Int
One: Where did Yumi talk with various people?



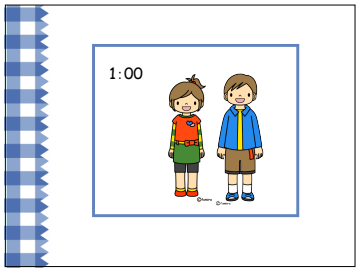
Ni: Tugi-no hi, dono hito-ni denwa-o
two next-of day which person-to call-Acc
kakemasita-ka?
make-Int
Two: On the next day, which person did (Yumi) make a call to?



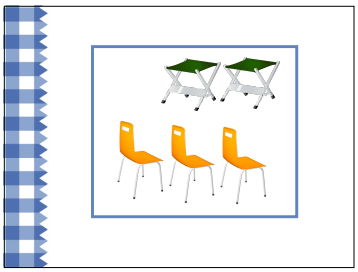
Sono san
of-that three
Number three



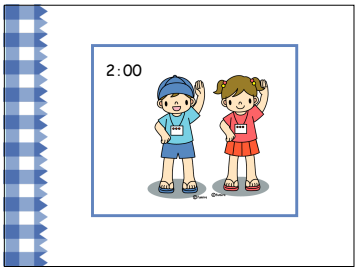
Doyoobi-ni tomodati-to baabekyuu-o simasita.
Saturday-on friends-with barbeque-Acc did
On Saturday (I) did a barbeque with (my) friends.



Iti-zi-ni futari kimasita.
one-oclock-at two-people came
At one oclock, two people came.

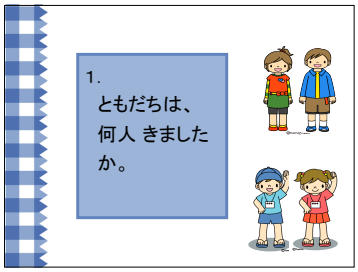


Karera-wa isu-o narabemasita.
they-Top chairs-Acc lined-up
They lined up the chairs.

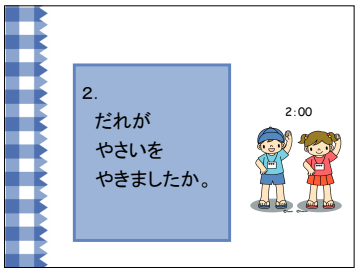


Ni-zi-ni ato futari kimasita.
two-oclock-at more two-people came
At two oclock, two more people came.

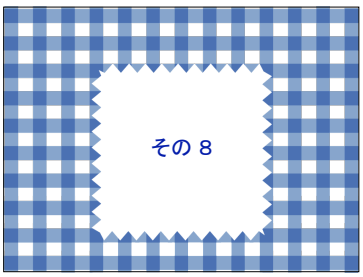
Karera-wa yasai-o yakimasita.
they-Top vegetables-Acc grilled
They grilled the vegetables.



Iti: Tomodati-wa nan-nin kimasita-ka?
one friends-Top how.many-people came-Int
One: How many friends came?

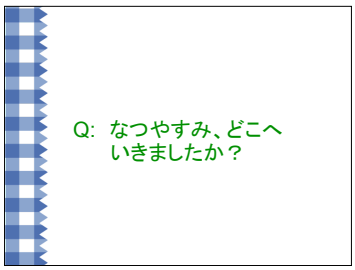


Ni: Dare-ga yasai-o yakimasita-ka?
two who-Nom vegetables-Acc grilled-Int
Two: Who grilled the vegetables?



Sono hati
of-that eight
Number eight

Gakusei-ni natuyasumi-no ankeeto-o
students-to summer.vacation-of survey-Acc
simasita.
did
(We) did a survey on students about summer vacation.



Natuyasumi, doko-e ikimasita-ka?
summer.vacation where-to went-Int
Where did (you) go on summer vacation?

5-nin-wa gaikoku-e ikimasita.
5-people-Top abroad-to went
5 people went abroad.

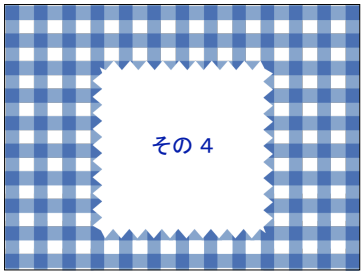
8-nin-wa umi-e ikimasita.
8-people-Top sea-to went
8 people went to the sea.

12-nin-wa doko-mo ikimasendesita.
12-people-Top nowhere-to not.went
12 people did not go anywhere.

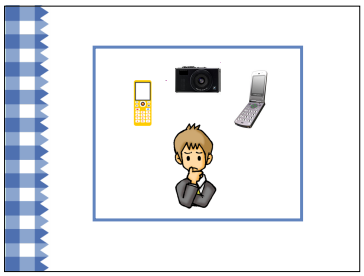
Iti: Kore-wa nan-no ankeeto desu-ka?
one this-Top what-of survey is-Int
One: What is this a survey of?

Ni: Itiban ookatta-no-wa donna hito desita-ka?
two most was.many-Nom-Top what.kind person was-Int
Two: what kind of people was there most?

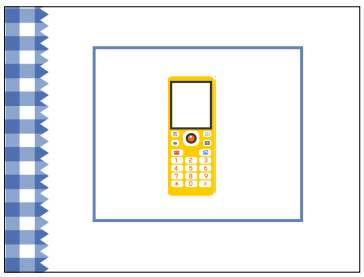
(v) **DO relative clauses (DO)**



Sono yon
of-that four
Number four

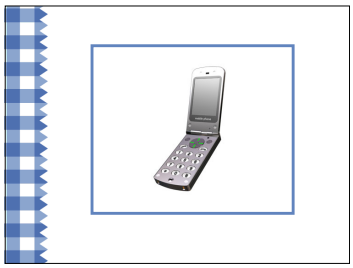


Yamada-san-wa denwa-to kamera-ga mittu
Yamada-Cpl-Top telephone-and camera-Nom three
arimasita.
had
Yamada had three telephone(s) and camera(s).

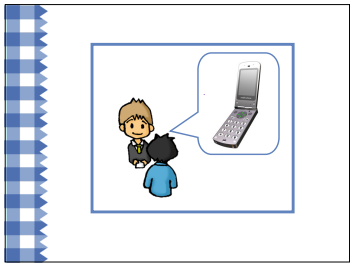


Kono denwa-wa benri-dewa-arimasendesita.
this telephone-Top handy-was-not
This telephone was not handy.

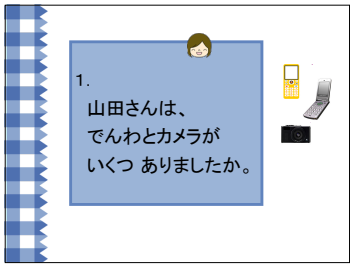
Kono camera-mo benri-dewa-arimasendesita.
this camera-too handy-was-not
This camara too was not handy.



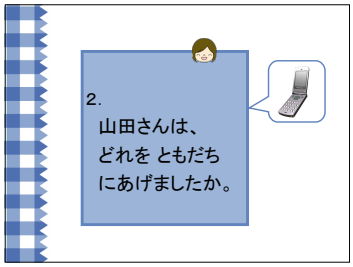
Kono denwa-wa tukatte imasendesita.
this telephone-Top using-was.not
This telephone (he) was not using.



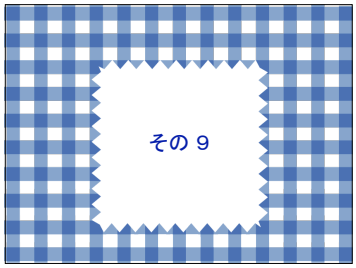
Yamada-san-wa kore-o tomodati-ni agemasita.
Yamada-Cpl-Top this-Acc friend-to gave
Yamada gave this to his friend.



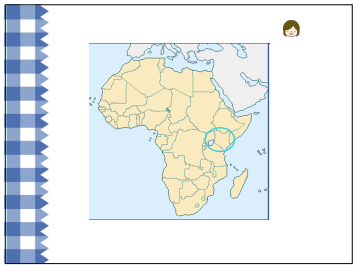
Iti: Yamada-san-wa denwa-to kamera-ga
one Yamada-Cpl-Top telephone-and camera-Nom
ikutu arimasita-ka?
how.many had-Int
One: How many telephone(s) and camera(s) did Yamada have?



Ni: Yamada-san-wa dore-o tomodati-ni
two Yamada-Cpl-Top which-Acc friend-to
agemasita-ka?
gave-Int
Two: Which one did Yamada give to his friend?



Sono kyuu
of-that nine
Number nine



Sengetu, Tanaka-san-wa afurika-e ryokoosimasita.
last.month Tanaka-Cpl-Top Afrika-to travelled
Last month, Tanaka travelled to Afrika.

Kono hagaki-wa mati-de kaimasita.
these postcards-Top city-in bought
These postcards, (she) bought in the city.

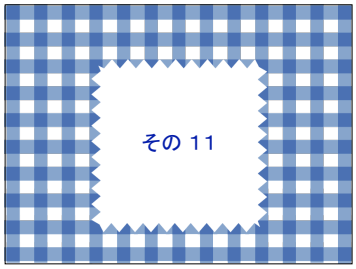
Kore-wa mati-no kodomotati desu.
these-Top city-of children are
These are children of the city.

Kono syasin-wa kodomotati-to torimasita.
this picture-Top children-with took
This picture, (she) took with the children.

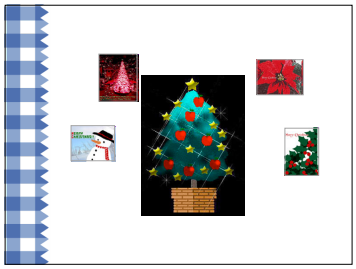
Tanaka-san-wa kono syasin-ga itiban sukidesu.
Tanaka-Cpl-Top this picture-Nom most likes
Tanaka likes this picture the most.

Iti: Tanaka-san-wa doko-e ikimasita-ka?
one Tanaka-Cpl-Top where-to went-Int
One: Where did Tanaka go?

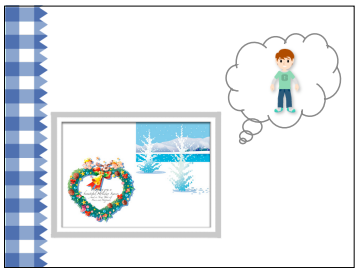
Ni: Tanaka-san-wa nani-ga itiban sukidesu-ka?
two Tanaka-Cpl-Top what-Nom most like-Int
Two: What does Tanaka like most?



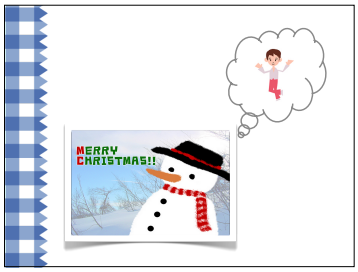
Sono zyuuiti
of-that eleven
Number eleven



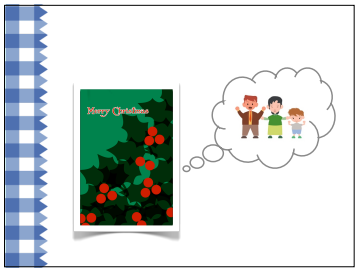
Moosugu kurisumasu desu. Kyoo-wa kaado-o
soon Christmas is today-Top cards-Acc
kakanakaerebanarimasen.
have.to.write
Soon it is Christmas. Today (I) have to write cards.



Kore-wa booifurendo-ni okurimasu.
this-Top boyfriend-to send
This, (I) will send to (my) boyfriend.



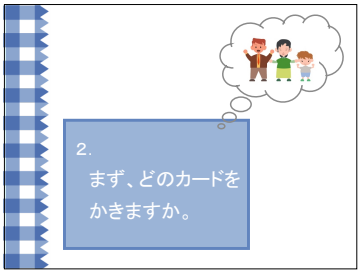
Kore-wa tomodati-ni okurimasu.
this-Top friend-to send
This, (I) will send to (my) friend.



Kore-wa kazoku-ni okurimasu.
this-Top family-to send
This, (I) will send to (my) family.

Kono kaado-kara hazimemasu.
this card-from start
(I) will start from this card.

Iti: Kyoo-wa nani-o sinakerebanarimasen-ka?
one today-Top what-Acc have.to.do-Int
One: Today, what does (she) have to do?



Ni: Mazu, dono kaado-o kakimasu-ka?
two first which card-Acc write-Int
Two: First, which card will (she) write?